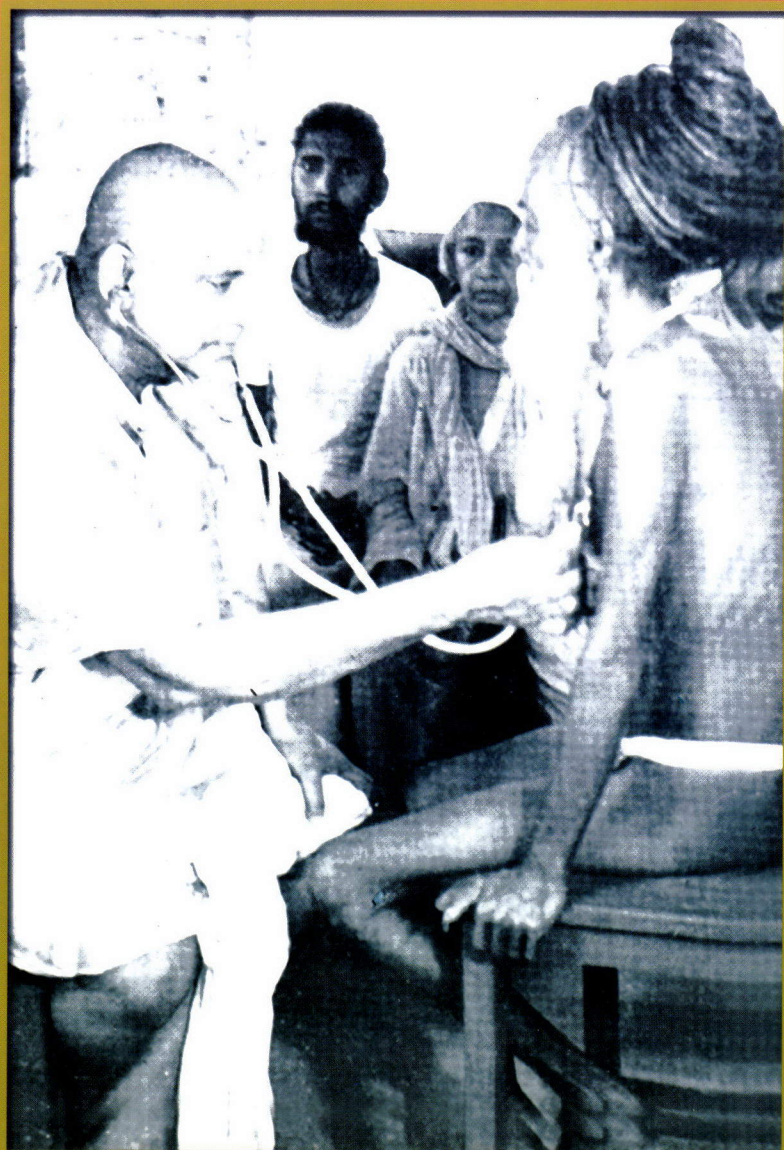


BLOOD PRESSURE

ITS CAUSE AND CURE



Sri Swami Sivananda

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D E D I C A T E D
TO
Sri Dhanvantari Bhagavan
AND
ALL MEN AND WOMEN
OF THE
Medical Profession

SRI SWAMI SIVANANDA

Born on the 8th September, 1887, in the illustrious family of Sage Appayya Dikshitar and several other renowned saints and savants, Sri Swami Sivananda had a natural flair for a life devoted to the study and practice of Vedanta. Added to this was an inborn eagerness to serve all and an innate feeling of unity with all mankind.

His passion for service drew him to the medical career; and soon he gravitated to where he thought that his service was most needed. Malaya claimed him. He had earlier been editing a health journal and wrote extensively on health problems. He discovered that people needed right knowledge most of all; dissemination of that knowledge he espoused as his own mission.

It was divine dispensation and the blessing of God upon mankind that the doctor of body and mind renounced his career and took to a life of renunciation to qualify for ministering to the soul of man. He settled down at Rishikesh in 1924, practised intense austerities and shone as a great Yogi, saint, sage and Jivanmukta.

In 1932 Swami Sivananda started the Sivanand-ashram. In 1936 was born The Divine Life Society. In 1948 the Yoga-Vedanta Forest Academy was organised. Dissemination of spiritual knowledge and training of people in Yoga and Vedanta were their aim and object. In 1950 Swamiji undertook a lightning tour of India and Ceylon. In 1953 Swamiji convened a 'World Parliament of Religions'. Swamiji is the author of over 300 volumes and has disciples all over the world, belonging to all nationalities, religions and creeds. To read Swamiji's works is to drink at the Fountain of Wisdom Supreme. On 14th July, 1963 Swamiji entered Mahasamadhi.

PUBLISHERS' NOTE

Blood Pressure is fast becoming something in the nature of a universal malady. In the West especially high blood pressure with its concomitants like apoplexy, paralysis, etc., it is assuming menacing proportions and the medical profession seems to find itself helpless to cope up with this dire enemy of human health and welfare. But for the gravity of the threat to human life held out by High Blood Pressure and the almost invariable fatality ultimately resulting from it one may be inclined to remark in jest that blood pressure has come to occupy the position of the foremost "fashionable disease" of the Twentieth Century. Above a certain age the average man is almost certain to have blood pressure complication in some degree or other as a part and parcel of his declining health picture. Though knowing quite a lot about the actual 'condition' called blood pressure yet the doctors all over the world seem hard put to lay their finger upon the exact causative factors responsible for bringing about the specific "condition". Nor have they been quite successful in finding suitable, rational, effective therapeutical agents to overcome radically this complaint.

A study of this subject therefore, is bound to prove of great value to the layman as much as it would be to the professional man. For it has to be admitted that this complaint is one of those which have to be corrected and overcome more through the intelligent ways of living of the patient himself than through the mere medication by the doctor. The checking of acute manifestations of this distressing complaint may well be the task of the medical man but the work of keeping the disease under control and preventing its progress is entirely the onus of the educated patient. The doctor himself depends upon the willing and intelligent co-operation of his patient to deal with any measure of success with this essentially modern malady. To educate the patient in this connection forms not the least of the aims before this present volume. The object of this book is to put before the present day public all the findings of the medical

men belonging to the different schools of medicine like the Allopathic, Ayurvedic, etc., etc., with regard to the subject of Blood Pressure and its Causes and Cure in as simple and non-technical manner as possible.

In the first five chapters valuable information of a general nature is given about the heart and its function and the phenomenon of blood pressure. Chapter VI to IX form an extremely important part of the book throwing much light upon the causes and treatment of this complaint. Subsequent chapters deal in sufficient detail upon the various aspects of blood pressure and provide a basic knowledge that is essential for the proper understanding of this grave complication of the system and the proper management of your life in your attempt to correct it and regain normal health. We have spared no pains in making this into a handy, concise, yet comprehensive, practical, common-sense guide in the management of blood pressure, to all patients declared to be affected by abnormal or sub-normal tension. This is by no mean meant to replace the expert advice and guidance of the intelligent and sympathetic doctors. But this book will certainly provide very important and valuable knowledge on the subject, the possession of which is bound to be extremely useful both to the patient as also to the doctor, who needs the former's intelligent co-operation all along, if his treatment is to be rewarded with any measure of success.

A valuable feature of this work is the psychological and spiritual hints we have included in it for the attainment of subtle, inner strength, sound and serene mind and a state of radiant vitality by the earnest seeker after health and well-being.

In furthering the Divine Spiritual Mission of His Holiness Sri Swami Sivanandaji, we offer the present work as a flower at the feet of the Lord enshrined in humanity. This book goes forth to do its mite in the Cause of the all-round , i.e. the physical, mental, intellectual and ethical welfare of mankind.

10 October, 1956

—THE DIVINE LIFE SOCIETY

OM

BLOOD PRESSURE DER-NIER' CRI IN CURE

(Sri Swami Sivananda)

Worry not, be cheerful.

Do not be excited, be calm.

Do not be anxious, be bold.

Talk a little.

Divert the mind and do not think much of disease.

Do Mrityunjaya Japa regularly.

Meditate "I am All-pervading, Immortal
diseaseless Atma, Om Om Om"

Take salt a little.

Take Serpentina, if necessary.

Take garlic juice half teaspoonful with honey.

Give up liquor and too much spices,

Give up smoking.

Do not consult Doctors very often.

Live on milk and fruit diet.

Take abundant rest, and your blood pressure
will come to normal.



ॐ सविता पश्चात्तात्सविता पुरस्तात्
सवितोत्तरात्तात्सविताधरात्तात् ।
सविता नः सुवतु सर्वतातिं
सविता नो रासतां दीर्घमायुः ॥

—ऋग्वेदः १०-३६-१४

The Creator is from behind, Creator is
before, Creator above and Creator below.
May the Creator give us sound health and
comfort. May the Creator bestow on us long
life.

—Rigveda: X. 36. 14



MAHA MRITYUNJAYA MANTRA

॥ महामृत्युञ्जय मन्त्र ॥

ॐ त्र्यम्बकं यजामहे सुगन्धिं पुष्टिवर्धनम् ।

उर्वारुकमिव बन्धनान्मृत्योर्मुक्षीय मामृतात् ॥

Om Trayambakam yajamahe
Sugandhim pushtivardhanam
Urvaarukamiva bandhanaan
Mrityormuksheeya maamritat

Meaning

We worship the three-eyed One (Lord Siva) who is fragrant and who nourishes well all beings; may He liberate us from death for the sake of Immortality even as the cucumber is severed from its bondage (to the creeper).

Benefits

1. This Maha Mrityunjaya Mantra is a life-giving Mantra. In these days, when life is very complex and accidents are an everyday affair, this Mantra wards off deaths by snake-bite, lightning, motor-accidents, fire-accidents, cycle-accidents, water-accidents, air-accidents and accidents of all descriptions. Besides, it has a great curative effect. Again, diseases pronounced incurable by doctors are cured by this Mantra, when chanted with sincerity, faith and devotion. It is a weapon against all diseases. It is a Mantra to conquer death.

2. It is also a Moksha Mantra. It is Lord Siva's Mantra. It bestows long life (Deergha Ayush), peace (Shanti), wealth (Aishwarya), prosperity (Pushti), satisfaction (Tushti) and Immortality (Moksha)

3. On your birthday, repeat one lakh of this Mantra or at least 50,000; perform Havan and feed Sadhus, the poor and the sick. This will bestow on you long life, peace and prosperity.

4. Kindly consecrate one Mala or more daily to Sri Swami Sivanandaji!

Hari Om Tat Sat

HEALTH AND LONG LIFE

(Sri Swami Sivananda)

Good health is very essential for man's success in life and for Yoga Sadhana. He who has done good deeds in his previous birth enjoys good health in this life. Good health is maintained by observing the laws of health and hygiene. He who is endowed with sufficient vital force enjoys good health. Vital force comes from the One Great Source of all life. Brahmacharya, prayer, meditation, Pranayama and Sattvic food augment the vital force and bestow good health, vim and vigour, also vitality.

Over-eating is the chief cause of most diseases. It hinders elimination, assimilation and growth. All the organs are over-worked and get diseased quickly. Hence avoid overeating and observe perfect moderation in diet.

Food serves as fuel for our body-engine and supplies animal heat and vital energy. Improper food causes accumulation of waste matter, which poisons the system. Refined sugar, milled and polished rice, white flower, fried articles, highly pungent and spiced dishes are improper, unsuitable foods. Too much salt causes irritation in the tissues. Salt excites the tongue and passion. When the kidneys do not function efficiently, salt increases the oedema or swelling in the tissue. Too much salt shortens life.

If you wish to attain longevity and good health, live on milk and fruits. Take the juice of tomatoes, oranges and pomegranates. Give up salt, tamarind, chillies, meat, fish, liquors, tobacco, coffee, and tea. Take a little salt. Give up breakfast or morning tiffin. Take one ordinary meal of milk and fruits, or fruits alone. Take raw carrots, spinach, salads, lemons, raisins, dates, nuts and almonds. All these are vital foods that contain a maximum of vitamins and nutritive elements in small bulk. You can get your full quota of vitamins and calories without overloading your stomach. Have health, joy and energy through eating light but, substantial and nourishing food.

But you must train your system to derive the maximum of strength and vitality even from the simplest of foods, like 'rotti and dhal'. Too much fastidiousness about food becomes a fad. In reality the human system can adapt itself to the roughest natural conditions and so can be trained to become hardy.

He who practises Pranayama for half an hour everyday can vitalize all the cells and tissues and supply them with abundant energy.

If you infuse tea for a long time it becomes a poison. You get tannin-poisoning. Tannin produces constipation. Brahma-charins should not take tea or coffee.

Chew five or six Bael leaves daily. This will supply fresh vitamins to the system. It will cure diabetes mellitus also, ulcers in the tongue, mouth, etc. It will cure pyorrhoea and keep the mouth sweet, clean and hygienically sound. Avoid taking injections. Promote the elimination of waste matter by taking regular exercise, long walks and deep breathing. Take sunbaths daily.

These are unfailing means of keeping oneself energetic and free from disease. Ultimately, it is the Antaryamin, the Spiritual Fountain-Source in man, who is the supreme life-giver, energizer and nourisher. He will sustain you with divine manna. Get in tune with Him, and the Lord will bestow upon you good health, long life, peace and prosperity.

MENTAL HEALTH

If you always have
A calm and poised mind,
You will enjoy wonderful mental health.
Mental health is more important
Than physical health.
All diseases take their origin
In the mind (Adhi Vyadhi).
Selfishness, greed, lust,
Anger, hatred, jealousy
Fear, worry, pride,
Destroy mental health.
They destroy bodily tissues also.
Any negative thought is destructive.
Entertain sublime divine thoughts.
Hold always positive thoughts.
Be courageous, be cheerful,
Be kind, be tolerant.
Fear not, worry not, regret not—
Pray, sing, meditate on the Lord.
Do Japa, Pranayama and Asanas.
Rajas excites the mind and nerves;
Tamas dulls them;
Sattwa purifies, elevates and strengthens them;
Therefore, control Rajas and Tamas,
And increase Sattwa
Through Sattwic food, Sattwic thoughts,
Sattwic Tapas, charity, Pranayama and meditation.
You will have wonderful
Physical and mental health.
You can practise vigorous Sadhana and meditation.
And attain God-realisation here and now.

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**BLOOD PRESSURE
ITS CAUSE AND CURE**

Chapter I

INTRODUCTION

With the rapid progress of civilisation in this century and the rise in the standard of luxurious living, man has set himself in an incessant quest for more and more of luxuriant amenities, such that he has tried out every cell and nerve of his physical being and has, hence, become blood-pressure-conscious. Most of his kind, if not all, feel that they are suffering from blood pressure; and, it is not uncommon to hear nowadays blood pressure being discussed in all conversations, petty and serious.

Associated, as it is, with unpleasant possibilities, 'blood pressure' has caused even healthy persons to worry about imaginary blood pressures and to get into, thereby, the condition that they dreaded most. It is due to ignorance of the real facts concerning blood pressure that these persons achieve the unpalatable state they worry about.

Concerning this topic there are four preliminary and essential facts which every individual has to understand fully for himself in order to safeguard himself from unnecessarily and unwittingly (and unerringly, too) developing blood pressure and eventually (in all probabilities) worrying himself to death!

Firstly, blood pressure is essential to human life. Unless there exists a certain amount of pressure, the heart-pump cannot set the blood in circulation. In this connection it may be remarked that there is no figure which can be set as the normal blood pressure for all individuals. Suffice it to say, at this stage, that the normal blood pressure for an individual depends upon his trade or occupation and physical activities.

Secondly, there are many types of blood pressure. All of them are not dangerous to health. Blood pressure is never the same all through the twenty four hours of a day. It changes rapidly and it also quickly returns to its normal level. It all depends upon the particular work that an individual does at a given mo-

ment and on the need for a greater circulation of blood in a specific part of the body.

Thirdly, high blood pressure is sometimes a necessity. Even in the case of healthy persons, certain circumstances arise which require very high pressure; of course this high pressure will only be momentary and not lasting. Again, during each day certain passing emergencies call for transitory changes in pressure level. These things are common.

Lastly, but not in the least, it should be well-understood by every individual that blood pressure is only a symptom and not a disease by itself. Hence, it would only be a folly to treat blood pressure with drugs. Momentary relief can be had but in the long run it may upset the functioning of the heart. After a proper diagnosis, the cause should be treated.

With this short introduction, we can proceed with a fuller and all-comprehensive discussion upon the subject. And it means a detailed study of the heart at work and the circulation of blood through the arteries.

Chapter II

THE HEART AT WORK

THE HEART

The human body is composed of seven great systems, namely, the skeletal, the muscular, the nervous, the respiratory, the circulatory, the digestive and the excretory. Though good breathing and sound digestion are essential for leading a long and healthy life, yet the circulatory system plays the important role since it has to carry the nourishment to different parts of the body. This system is maintained by the working of the heart.

The heart is the hardest working organ in the body. If man wishes, he can give rest to any of his organs but not to the heart. The heart functions continuously for twenty four hours a day and twelve months a year all through the life time of an individual. It beats about 104,000 times in every twenty four hours and pumps into the arteries, in the course of a day approximately sixty barrels of blood. In the language of the engineers, the daily output of the heart is roughly 22 foot-tons, or, in other words, the work done by the heart in a day is enough to lift a weight of one ton through a height of twenty two feet in twenty four hours! Taking it for granted that a man lives for 75 years, this self-lift would reach a height of more than 2,150,000 miles! But, this task the heart accomplishes silently and the individual is not aware of it. Except when it is comparatively at rest during the hours of sleep, etc., the heart is strained for nearly fifteen hours a day. The only work of the heart is to keep the blood ever in circulation.

The total quantity of blood in the human body is slightly less than ten pints; and in every minute the heart deals with about five pints of blood. Of course, the latter is a normal case. During heavy manual labour the heart actually deals with 15 gallons and more of blood every minute.

THE HEART AT WORK

We said that the only duty of the heart is to keep in circulation the blood. In this respect it is comparable with the main water-pump which maintains the city water supply.

For the purpose of comparison, consider a water-pump which has to continuously pump water into miles and miles of hoses of varying sizes. Imagine the pump working for twenty-four hours a day for sixty or seventy years. Just as the human heart, let it also pump about sixty barrels of water every day into the hoses. How many things can go wrong with the pump and the hose? An engineer will tell us the various technical difficulties which arise out of it. The pump may get weakened; the hoses may become worn out and water may escape out of the tubes by puncturing them, and so on.

In the above example, a certain amount of pressure must be maintained in the pump in order to force water into the hose. It is the case with all fluids. The function of the pump is this: to exert pressure on the fluid and to force it through the hose. Before it is filled with water, the hose is flat and empty. When slowly and slowly water is forced into it, the hose assumes a cylindrical shape with water pressing on its sides. If the hose be new, of the elasticity of the walls, it can adapt itself to the rise and fall of the water pressure. If, due to its being an old one or due to its being worn out on account of protracted usage, the walls of the hose have lost their elasticity and have become hard, what would be the case? Evidently, there would be a disturbance in the water pressure in the hose and a corresponding reaction in the pressure in the pump.

Also imagine that you have tied tight a rubber band or some such thing at a given point in the hose. Water cannot pass beyond that point and the pump will hence try to exert more and more pressure in order to force the water through the point. And this will eventually lead to two things, viz. if the pump be weak enough, it may collapse, and if it be strong enough to withstand the reaction, it will exert itself violently and the hose will burst. Similar it is when a stone or some other solid matter lodges in any portion of the hose. A considerable portion of water will be shut thereby and a corresponding increase in the

pressure of water in the hose will be registered. And this, in turn, will lead to an increase in the pressure in the pump.

Consider the same pump being used to force some thick fluid, say, any oil, into miles of hose. In this case the oil being thick and hard, the pump, too, has to work harder or faster or both in order to exert the minimum required pressure to force the oil into the hose. Correspondingly the walls of the hose will be subjected to a greater strain than when water is pumped into it.

The heart is the human pump within the body; and the arteries take the position of the rubber hose, blood itself being comparable to a thick fluid, much more denser than water.

The heart is located in the centre of the body in between the two lungs. It is divided into a right half and a left half. Each of the two halves is further subdivided into two chambers, the upper and the lower. Thus it contains a total of four chambers. There exists no connection between the right half and the left half. In this respect we can consider the heart as two separate organs fastened together, better, as two hearts that beat as one.

The two upper chambers are respectively called the right auricle and the left auricle. Correspondingly the two lower chambers are termed the right ventricle and the left ventricle.

From the various parts of the body, the impure or the used up blood flows into the right auricle which acts for the time being as a waiting chamber. Once it is full with the used-up blood, it contracts and forces the blood into the lower chamber directly below it (the right ventricle) through a three-cusped valve. As soon as the right ventricle is filled up, the three-cusped valve, closes, and the ventricle contracts forcing the blood into the pulmonary artery (which leads to the lungs) through the semi-lunar valve.

As it passes through the lungs, the blood gives up the carbon-dioxide which it contains, and gets recharged with oxygen. Once this takes place, it is no more the tired and used-up and impure blood but is the fresh blood, bright in colour, ready for use.

It then leads through the pulmonary vein into the left auricle. There are four pulmonary veins and the pressure of blood, while it is inside them, is very low such that it requires no valve to regulate and allow it through.

Again, while at the left auricle, the pressure of blood is low. From here, it passes into the left ventricle through what is known as the mitral valve. In less than half a second after it reaches the left ventricle at a lower pressure, the blood registers the maximum possible pressure, since it is from here that the blood is distributed to all parts of the body and according to the individual need of each part of the body. Hence it is the left ventricle that does the heaviest work. And so as to be fit for turning out such colossal work, the muscular walls of the left ventricle are extremely powerful and thicker as well than the walls of the other chambers. We would only be erring on the right side if we were to say that, in this respect, the left ventricle is the heart to which additional chambers are fitted.

Aorta, the largest artery in the body, proceeds from the left ventricle. The aorta is all full of blood at a high pressure that is needed to maintain the circulation. But, since its walls are elastic, it is also able to receive blood at a high pressure from the left ventricle and yet maintain the same pressure inside itself, (This being made possible because of the elasticity of its walls; it expands with the receipt of each new quota of blood from the left ventricle; but for this elasticity of the walls of the aorta the pressure of blood in the aorta between any two consecutive beats of the heart would reach a very high level). The reaction of the elasticity of the aortic walls is received by the aortic valve.

Studying the working of the four chambers together, we can state thus:

The two auricles simultaneously but independently diminish first, each in its turn forcing the blood into the corresponding (respective) lower chambers. As soon as the blood is pumped into the ventricles, the auricles expand slowly, again simultaneously but individually, and this expansile wave is passed on to the ventricles. This cycle continues, and hence, is the routine. In a relaxed state, the left auricle received the blood from the lungs. Once the blood passes into the left ventricle, the latter contracts and forces the blood into the aorta. The aorta

within a short distance branches off, one branch leading to the head and the other to the arms. A little further, beyond this branching, the aorta curves and following the spinal column takes a downward course. In the abdominal area, the aorta is seen much reduced in size. From here it branches into two main arteries leading to the legs. Each of these off-shoots divides itself into innumerable branches (like the branches of a tree) and reaches every part of the body. These smaller vessels are called arterioles. The finer the size of the vessel, the thinner its walls are.

The arteries assist the onward flow of blood by distending and taking up the impact of the beating of the heart. In this way, it absorbs the thrust and greatly reduces, hence, the strain. Further, after the passing of every quota of blood, these arteries contract, thereby, helping or assisting the blood to flow onwards. Of course, the arterioles cannot do this function, their walls being thinner.

The arterioles giving rise to numerous branches of a thinner size, the capillaries are formed. It is in these tiny vessels that the blood accomplishes its duty. Through their tiny walls, these tubes supply fresh oxygen and nourishment to the various tissues and do also the scavenging of receiving the waste matter from the tissues and cells.

Beyond this point, the capillaries merge together to form larger and larger tubes. These slightly bigger vessels with a corresponding thicker walls are called Venticles. These again merge together to form bigger vessels which are termed veins. Ultimately these veins also merge together to form the big veins called the inferior vein and the superior vein (inferior vena cava and the superior vena cava). The impure blood from the head and the arms collects in the superior vena cava, and that from the lower parts of the body in the inferior vena cava. These two streams of used-up blood flow into the right auricle, and this completes the circulation of blood in the body.

Hereafter the pulmonary circulation starts. From the right auricle blood passes in the right ventricle and then goes through the pulmonary artery to the lungs. From there it returns afresh through the pulmonary vein to the left auricle and

passes into the left ventricle to once again begin circulation in the body.

In this brief account of the circulatory system two important points might have been noted. These two points are as follows:

(a) The forward flow of blood from the left ventricle is violently intermittent (in other words, jerky) owing to the periodic contraction and relaxation of the walls of the heart and specially so of the thick and powerful walls of the left ventricle.

(b) The arteries are, apart from the left ventricle, the main working organs that are put to great strain. This is explained thus: The arteries have to maintain the onward flow of blood by expanding their walls at one part while at the same time contracting their walls at a place prior to the pre-mentioned part so as to push the blood forward. Needless it is to say that the push given to the blood by the arteries and the arterioles are promptly transmitted to some extent (however slight it might be) to the veins and the venules, such that, without much effort and strain, the flow of blood along the venules and veins is maintained. The walls of the arteries and the arterioles are further subjected to sudden and quick contractions and expansions, differently at different parts of it, to suit the passing need, which variously depends upon the physical activity and emotional state of the individual. Thus a change in posture or taking food or breathing may cause changes in the shape and size of the arteries and the arterioles immediately.

In this connection, it will be useful to learn something about the special nerves which control the various arteries and the arterioles and help their changing of size and shape. These are called vaso-motors. Their duty is to decide whether a particular muscle shall contract or not, thus inducing the arteries, etc., to contract or remain unaltered as the need may be. These vaso-motors play an important part in the circulatory system. They can limit the flow of blood to any part of the body; similarly, they may also allow an increased flow of blood to a desired part of the body. Thus, these vaso-motors play an important role in blood pressure conditions also.

CHAPTER III

THE CONTROLLING FACTORS

In the foregoing chapter we mentioned how blood circulates in the body and what the function of the heart and the arteries is. Therein we studied how the arteries are controlled by the vaso-motors. In this chapter, we shall study some more things about the nerve control as well as the other controlling factors on which blood pressure and regulation of blood through the arteries and the arterioles depend.

Thin layers of tiny muscles encircle the arteries and the arterioles. The muscle fibres are further strengthened by elastic tissues. Thus the small muscles in combination with the accompanying tissues form the main controlling factor in respect of the expansion or contraction of the walls of the arteries and the arterioles. In an healthy person, these muscles are, in turn, controlled by the vaso-motor nerves. Thus nervous control plays an important part in maintaining the normal level of blood pressure. Hence, it would be advantageous to know, at this stage, something about the general nervous control.

The nervous system is broadly classified under two heads, the voluntary and the involuntary, the central or the cerebro-spinal system and the vegetative nervous system. The former is controlled by the intellect inasmuch as the corresponding nervous impulses have their origin in the faculty of thinking or willing. The impulses arising out of the latter system are automatic and do not depend on our thinking or willing. The functioning of the diaphragm, while one is asleep, is an example of the involuntary system. Of course, there are certain nerves which come under both the groups; for example one can, at will, control the action of the diaphragm and yet, as mentioned before, while one is asleep, the diaphragm functions without one's knowledge. It may be mentioned here that the functioning of the involuntary system relieves the brain from unduly straining itself for all actions of an individual.

The vital organs of the body such as the heart, the lungs, etc., are controlled by the involuntary system. Otherwise, sleep would be impossible, a conscious thinking on the part of the brain being required in the alternate case to maintain the function of the various vital organs.

The automatic system has the ability to increase or decrease the functioning of the various organs according to the immediate needs of an individual. This co-ordination of the function of the various vital organs is extremely delicate but nevertheless rapid and smooth. Rare is the person who is consciously aware of the complex mechanism which sets in action the various vital organs, and to no person it would be possible to supervise and consciously control and coordinate the actions of the vital organs.

There is continuous but slight leakage of nervous impulses from the automatic control centers, which are situated in the spinal cord and the brain. This leakage goes to tone up the muscles and to maintain them in a slightly contracted state. This gives rise to the 'feel' of the muscles through which we generally infer the inherent vitality of an individual. This helps us to know also the standard of health that an individual possesses. When the muscles are not toned properly, their reaction on receiving messages for acting through the nervous impulses becomes poor and they cannot, hence, give instantaneously the proper and required response. And this indicates a lower standard of health. The atonic condition of the muscles will, as will be seen later on, also lead to high blood pressure. The proper functioning of the heart and arteries being dependent upon the muscles that envelop them, it is essential to keep the muscles in a toned-up condition. The walls of the arteries, etc., are kept up in a state of slight tension, this being achieved through the small muscular layers which are controlled by the vaso-motors. Good health and ideal blood circulation depend upon the vascular tone of the circulatory system. An increased tone of the blood vessel diminishes the size of the latter, and there being no outlet for blood to escape, the pressure inside the blood vessel increases. So, in the case of the blood vessels, an increased tone means a high level of blood pressure. Likewise, a lowered tone makes it possible for the blood vessels to dilate and lower the blood pressure thereby.

CHAPTER IV

THE PHENOMENON OF BLOOD PRESSURE

In the course of the second chapter we made, you might remember, a comparison between the heart and the hose. Blood pressure is the pressure exerted by the blood in circulation (or by the heart, the human pump) against the walls of the blood vessels, the arteries.

The phenomenon of blood pressure was first recognised by one Rev. Stephen Hales, who made an experiment on a horse in the year 1708. For the next hundred years and more, in spite of this lead given by Rev. Hales, no progress was made in this direction. It was in 1856 that a French physician by name J. Faivre determined, in the course of an important test, that the blood pressure reached in one patient a level of 120 mm of mercury, this indicating the arterial pressure. For many years that followed, people accepted this as the normal systolic pressure (this term is explained in a later context.)

The method that Faivre used was a crude one. In short, he connected directly an artery of the patient to a mercurial pressure gauge. This being found inapplicable in practice, a German named Karl Viefordt devised more than a hundred years ago a system to counter the pressure and read it. Though theoretically correct, it was not found to be successful in practice. A few decades later Scipione Riva Rocci, an Italian physician, invented the sphygmomanometer. Though it has undergone minor alterations and modifications, even to this day the mercury sphygmomanometer is used to measure the blood pressure. Also, though at first the physicians condemned its being put to use on the ground that it pauperised the senses and weakened clinical observations, though even the British Medical Journal discouraged the use of this instrument, slowly and slowly it found its way into the consulting rooms of the physicians. (Till then the doctors were feeling the pulse and declaring the blood

pressure condition to be as high tension, normal tension, or low tension).

THE CURSE OF HUMANITY

Nevertheless, the sphygmamonometer was successful in its appeal to the public. As it established itself in the consulting rooms of the doctors, people, both healthy and diseased rushed, in streams to have themselves examined. The result was that even those who entered the doctors room with a good health and carefree mental frame, emerged out with a saddened look, and never once again, did they participate in their usual routine of games, exercises, etc; they have been told that they were suffering from 'high' or 'low' pressure and advised to confine themselves to their rooms and beds! And in the world of disease, 'high blood pressure' and 'low blood pressure' acquired special and enviable status. People who thought that they were hale and healthy were pronounced unfit for active work. They were made to understand that they were invalids and that, hence they should be careful about their general activities, lest the heart should collapse all of a sudden! Naturally, many healthy people, too, lost their charming looks and took to worrying themselves (to death!)

SPHYGMAMONAMETER

The sphygmamonometer is the instrument which is used for measuring blood pressure. It consists of a non-elastic arm band, within which is placed a rubber bag. Through a rubber tubing this is connected to an air-pump. Attached to this device is a mercurial pressure indicator or an aneroid, either of a small pocket size or of the desk size. The scale readings are marked in millimeters.

First the band is wound round the arm and then the rubber bag is filled with air by working the small air-pump. As the pressure of air in the rubber bag increases, it presses more and more against the artery, it being made possible on account of yielding by the soft tissues. This pumping of air is continued till the pressure of air inside the rubber bag becomes greater than that exerted by the blood against the artery walls. When this point is reached, the artery collapses and the flow of blood through it is arrested. This is discerned by continually feeling

the pulse while pumping air into the rubber bag. The moment the artery collapses the pulse also disappears. At this point the pressure of air inside the rubber bag is read on the aneroid or the mercurial gauge. This gives the level of blood pressure.

When the doctor takes the blood pressure readings, he usually gives two figures, for example, say, 125/80. This means that while the heart is actually pumping, the pressure is 125 and that while the heart is at rest in between two beats, the pressure is 80. The former is known as Maximal Systolic Pressure and the latter the minimal or diastolic pressure.

THE AUSCULTATORY METHOD

When the artery has collapsed and the pressure of air inside the rubber bag has exceeded that of the blood, if the pressure is allowed to fall down slowly and slowly, a series of sounds will be begun to be heard through a stethoscope placed over the bend of the elbow. Prior to this series of sounds, the stethoscope will disclose perfect silence.

After the silence, the first thing to be heard is a sharp thud. It is the indication of the peak of the pulse wave. The pressure registered at this moment is termed the maximal pressure or the systolic pressure. After a while, the sounds are no more heard; this is because of the resting of the heart between two beats. The pressure noted at this point is the pressure in the arteries when there is no systolic wave. This is called the minimal or diastolic pressure.

The difference between the two readings is called the differential pressure or the pulse. Usually, any abnormality in this pressure should not be maintained for over long periods; but, on that score, such abnormalities need not be treated as indicative of ill-health. In a person who is healthy in both the body and the mind, this is normal and indicates a high standard of health, and the perfect condition of the heart's working. It may be however mentioned that healthy athletes often register a very high differential pressure. While thus indicating a highly satisfactory level of health, a high differential pressure is indicative also of kidney troubles.

BLOOD PRESSURE

Definition: The arteries get thickened in old age and lose their elasticity. In high blood pressure, blood has to circulate under pressure. Those who suffer from high blood pressure should be very careful. They should at once reduce the pressure. The arteries become stiff on account of high blood pressure. It is more frequent in and past middle age.

High blood pressure may be defined as continued pressure above 150. Variations of 10, 20, 30, 40 mm. Hg. in daily pressure do not matter. Blood pressure is the tension at which the blood exists at any point in the vascular system.

The pressure put on the elastic blood pipes or arteries, which carry pure oxygenated blood from the heart to the tissues, is blood pressure. The blood vessels are more than full. They are always under pressure and distended. This pressure is called blood pressure. Pressure is found by the help of an instrument called sphygmometer. The figures indicate pressure in millimeters of mercury.

A normal record shows that the heart and vessels are healthy and that there is no toxic condition of the blood to increase resistance.

In 21st Century, cardiologists have established that normal blood Pressure in all healthy individuals should be 'Systolic 120' and 'Diabolic 80' irrespective of age.

CHAPTER V

BLOOD PRESSURE IN HEALTH

There seems to be no such thing which is known as 'normal blood pressure', that is, no one can definitely set a figure which shall represent the level of blood pressure as it exists in all healthy individuals. There are persons who, when their blood pressure is very low, far below the average, enjoy the best of health and longevity. There was a time when people used to think that the normal blood pressure for an individual should be 100 plus his or her age. Suffice it to say that the above was made on the basis of actual blood pressure readings, and can, therefore, signify the 'average' reading but not the 'normal' level, for by the word 'normal' we mean a healthy condition.

The researches made by the modern scientists and physicians reveal that a rise in blood pressure level need not necessarily accompany an increase in the age of a person. On the other hand, many, now a days, are of the view that, in a healthy person, the level of blood pressure at sixty should be the same as it was at twenty five; and so they feel that any increase in the level of blood pressure with the process of aging should only denote certain drawbacks or weakening of the system as a whole. However, as yet, the previous notion that an increase in the level of blood pressure takes place along with the growing years is not outdated.

In a healthy person, the level of blood pressure changes very quickly now and then according to the need for blood in the different parts of the body. If this variation is not found in an individual, then he or she cannot be considered to be healthy. Also, it must be noted that such abnormal rises in blood pressure level are always attended upon by a quick returning to the normal level as soon as the need ceases.

For example while climbing a mountain, there would necessarily be an increase in the level of blood pressure. This does not mean that the concerned individual is suffering from

high blood pressure. Similar it is in the case of hard manual labour like carrying huge quantities of water, felling a tree, etc. If, in any person, the blood pressure does not rise during the time of such works, naturally that person would feel unenergetic or tired and would be debarred from doing such acts. Once the work is finished, the blood pressure also drops to its normal level. This only shows that such individuals are in a state of perfect health ready to do any act. Further, this proves that the various parts of the body, the inner complex mechanism, are able to co-operate and jointly answer to the passing needs of an individual.

Momentary anger, resentment, irritation etc., quickly register a rise in blood pressure. In these cases, a hearty laugh or a more soothing of the mind causes an instantaneous drop in the pressure to the original level. Deep breathing slightly brings down both the systolic and the diastolic pressure. A forcible or strong exhalation registers a rise in pressure.

Exercises cause an increased supply of blood to the different groups involved in the act. This causes, in turn, an increase in the systolic pressure. Also during such exercises, there arises a dilation of the arterioles and capillaries situated in the activated muscles and it causes a lowering of the pressure inside the concerned arterioles and the capillaries. Muscular efforts being localised, there is a general rise in the systolic pressure. This rise, the system is able to maintain by increasing the arteriolar tone in the inactive parts. This compensation is the result of the intelligent functioning of the various cells by themselves—of course, in accordance with the decision arriving from the various plexus of the vaso-motor control. When this complex mechanism is broken down, no amount of injections, etc., would help to raise or lower the blood pressure in the different parts of the body, for, man with all his intelligence, cannot make these drugs decide to which part they should supply blood and from which they should withhold. What is needed is the cell-intelligence and it should hence be preserved at all costs.

To come back to the original point under discussion, the rise in the systolic pressure may be well kept under control by long practice of exercises, etc. that is the inner system should

become used to the actions. Sudden and new actions will considerably increase the pressure, routine work and exercise, to which an individual is accustomed, will only register a slight increase. Great mental strain or intense mental concentration is also liable to cause a great increase in the pressure. It may be profitably remarked, here that these variations in pressure are only normal and that there is no need to become anxious over them.

The following few points may also be profitably studied.

While a hot water bath causes a slight increases in the pressure, cold water bath produces a great increase in the pressure. A heavy lunch or dinner increases the blood pressure. Once the process of digestion has started, the pressure will gradually fall down, since the abdominal capillary field opens up. In persons whose muscular tone is not up to the mark, this lowering of blood pressure may cut the supply of blood to the brains etc. It is this that induces a person to fall asleep after taking the meals. Also, for the same reasons, there is a feeling of chilliness.

In the case of nervous persons who are also physically weak, even slight emotions cause a rapid rise in the blood pressure. With the progress of the day's work, these persons experience a gradual lowering of the vascular tone. Acts which cause passing emotions may prove dangerous to these persons because, on account of their lowered vascular tone, they cannot quickly regain the normal level of blood pressure after, say, serious argument, etc. This means they shall and will have to sustain for a considerable time a high blood pressure which might force an excess of blood to a certain part of the body and withhold it from some other parts. Giddiness, etc., arise in these cases on account of poor circulation of blood to the brain, and it might cause the individual to faint after a serious argument. Fainting is a natural process which helps the individual to regain blood circulation to the brain. A fainted man lies flat on the ground. And this makes it possible for blood to flow to the brain.

CHAPTER VI

BLOOD-PRESSURE, ITS CAUSE AND CURE

The malady of blood pressure is related to the heart, the most vital part of the body. In its initial stages it is hardly to be known by the patient. People get this disease generally after twenty. Heart is the prominent part of the body. It is known to be the centre of the vital energy, Prana, Ojas, Rasa, blood and the Vyana Vayu. This is why with the want of Ojas and other energies the heart manifests the greatest reaction. When mind is overcome by fear, the heart-beat increases more and more. In course of time, the heart goes on losing its consciousness. One begins to feel the loss of consciousness in the vital parts of the body. In case no treatment is done, the signs of sudden death is bound to manifest.

CAUSE OF THE DISEASE

Causes of high blood pressure are heredity, age, strenuous work as of doctors, lawyers and businessmen, over nutrition, disturbances of endocrine glands, kidney trouble, arteriosclerosis or hardening of the arteries, some forms of heart disease, angina pectoris, gout, nicotine poison through heavy smoking. Mental strain has a very decided influence on blood pressure.

Blood pressure is raised by kidney diseases as well as by those of the arteries. It occurs in emotional or highly nervous people. Blood pressure is only a symptom.

The causes of low blood pressure are: exhaustion, shock, typhoid fever, tuberculosis, internal bleeding, exhausting diseases, excessive sweating and diarrhoea.

Sedentary habits, constipation and excess of nitrogenous food are exciting causes.

Symptoms: The patient generally complains of one or more of the following symptoms, viz., headache, vertigo or giddiness, dyspnoea or difficulty of breathing, palpitation, languor,

feeling of fullness above the head, disinclination for exercise, depression, disturbed vision and sleeplessness.

The pulse can be conveniently felt in the radial artery at the wrist. You can count it by looking at the watch. In a healthy adult the pulse beats will be 72 per minute, and the respiration will be 14 to 18 per minute. The ratio between the respiration and pulse in a healthy adult is 1:4. This will be disturbed in Pneumonia and other diseases. The science of the pulse is wonderful. An able Ayurvedic doctor will be able to diagnose the disease and describe the symptoms and fix the time of death by feeling the pulse alone. The pulse is an index of the heart. It shows the condition of the flow of blood, its volume and pressure.

When a man exerts himself much on some occasions the heart may do four times its normal work. Under such conditions the pulse beats may be very, very fast. The reserve power of the heart is put into action when there is extraordinary strain on some occasion. But if the heart is weak or is in a diseased condition, it will not respond. It will not supply the required amount of blood to cope with the strain or overwork. Consequently there will be less blood in the brain. This will produce swooning and the stoppage of the heart's action or heart failure. Therefore you should never cause undue strain to the heart. Remember this point well.

By taking hot, heavy, pungent and spiced articles of food, by internal shock, by excessive exertion day and night, excessive sexual intercourse or grief by excessive drinking and meat eating and by checking the calls of nature for a long time, one gets this disease.

The heart always helps the impure blood from all the parts of the body to get itself purified in the lungs with the help of oxygen and again to redistribute the oxygenated blood throughout the body by pumping it into the arteries. The influx of blood into the heart is called internal blood-pressure. When the blood-pressure increases, it becomes difficult for the heart to continue the function of blood circulation. Consequently the circulation stops, and with the stoppage of heart beat, death ensues. The prolonged blood-pressure causes the arteries to dilate and the flow of blood in them becomes slower. After

some time even the flow of blood becomes unbearable for the arteries. The mind being intimately connected with the arteries, gets affected in consequence.

The Initial Stage of Disease

The patient feels heaviness in the body, cough increases and mind begins to reel. Slow pain is felt in the heart, the taste of mouth is somewhat sweet or dry. The hunger disappears. The patient begins to perspire, his body trembles, even he may swoon. He feels darkness under his eyes. He wants to drink water and to lie down. There are lassitude, breathlessness on exertion, bleeding from the nose, etc. By these signs one should know the initial stage of the disease.

Be cheerful and joyful always under all circumstances. Smile and laugh. Freedom from worry is essential. If symptoms are very troublesome, absolute rest in bed is very essential. The mind and body should be perfectly relaxed. And sudden exertion should be avoided. Walking is beneficial.

Fasting is highly useful. Take fruit juice, fresh green vegetable salad, Apple and cream is a good, wholesome combination. Give up starches and heavy food. Live on low diet. Hot tea, coffee, spices, pickles, all liquors, tobacco, should be strictly avoided. Lime juice is beneficial.

Saline purgative, vegetarian and fruit diet, relaxation are useful. Do not practise difficult exercises. Iodide, Iodide of potassium and Sodium relieve blood pressure.

Be careful about your dress. Do not wear anything that can impede the free movement of the blood. Do not wear tight corset or tight shoes or tight garters. Tight collar, bands or gloves, tight necklace or bracelet, should be avoided.

Sponging the whole body with tepid water daily followed by a brisk rubbing with a rough towel is helpful. Hot baths, turkish baths, are useful.

Relaxation exercise is one of the best means.

CHAPTER VII

AYURVEDIC TREATMENT FOR BLOOD PRESSURE

With the attack of blood-pressure one should make the patient lie down upon a cot. Let the air be pure in his vicinity. Do not talk with the patient. His head should be wetted by cold water and given enough rest. For answering calls of nature, everything must be arranged near him. He should not be allowed to go hither and thither. The patient should be given the following medicines daily for calming down the attack.

First Recipe (Mukta Mishram)

Mukta pisti	4 grams
Praval Pisti	4 grams
Guduchi Sat	16 grams

Preparation: Mix them well and make doses of 12 grains each. Take each dose morning and evening along with half an oz of honey or butter. Very soon the benefits of medicine will be manifest.

Second recipe (Arjuna Kshur)

Cow's milk	½ litre
Fresh water	½ litre
Arjuna Chal Churna	15 grams

Preparation: Should be mixed and cooked slowly on fire. When it remains only 1lb., it should be taken out from the fire, 15 grams sugar candy should be mixed in it. After cooling it one pav should be given after every three hours. The heart trouble will subside very soon.

Third recipe (Sarpagandha Churna)

Dose. From ½ gram should be taken along with 50 ml. of Rose water or 100 ml. of fresh water. This gives quick relief.

Fourth recipe (Vamsh Kshiri Churna)

Sarpagandha	10 grams
Vanslochan	16 grams
Kesar	12 grams

Preparation: Should be powdered well each separately, then mixed. Then doses should be made each of 25 grams. Take each dose morning and evening with 10 grams of butter followed by 250 ml. of cow's lukewarm milk, mixed with sugar candy. This is very effective.

Arjunarishta

Arjunarishta is very beneficial in all the defects of heart. 30 ml. of the medicine mixed with 60 ml. of water, should be taken 10 minutes after a light diet.

Fifth recipe (Drakshavaleh)

Munakka (Rasina)	60 grams
Honey	30 grams
Cow's ghee	30 grams

Preparation: Extract the seeds of rasina and grind it finely with honey and cow's ghee. Take morning and evening 15 grams each time followed by 250 ml. of lukewarm cow's milk.

Useful diet for the patient

Rice, Mung, barley, butter, honey, cow's ghee, milk, plantains, apples, pomegranate, Mosumbee, Parawal, Karela, Peta, tomato, ginger are very useful. Avoid oil, chillies, onions, garlic, Urud, Gur, alcohols and meat, heavy food, pungent articles, sexual intercourse, anger, anxiety, labour, too much talk, etc., are to be avoided.

The Herb 'Serpentine' and Its Utility

Among all the roots and herbs found in India serpentine (Sarpagandha or Chandrabhaga) has got one of the most prominent place. In Sanskrit it is called Sarpagandha (chandrabhaga), in Hindi Chhoti chand or Dhau Marua, in Bengali Chadar, in Marathi Adakai and in Latin Merolfia serpentine.

Description: Sarpagandha is bitter and acrid in taste. In effect it is slightly hot. The herb is one and a half to two feet high with various branches. Its leaves are as glossy and green as

those of the chandani flower. Its small fruits, when ripe, are seen just like kakmachika. Its roots are twice as thick as its stem. Its various parts are full of fine fibres.

Place of birth: It is found generally in the cold or moist hot parts of the country. It is found up to the height of 5000ft in the region of the Himalayas. Mostly it is found in Dehradun, Mussoorie, Bihar, Bengal and in the valley of Nepal. In foreign countries it is found in Sri Lanka, Andaman, Nikobar, Java, Sumatra, Malaysia etc. The Indian herb is exported to America, Germany and Switzerland. The Indian Government is taking special interest in the cultivation of this herb. It should be culled in the month of Margashirsh or Paush (October & November). It should be taken dried and kept in an air-free place.

Importance and Utility: The medicine prepared by the help of Sarpagandha are generally used in blood pressure, Epilepsy, Hysteria and other mental diseases. They are also used as sleep inducing medicines. In the cure of all these diseases the latin scientist 'Grios Ava Harto' has praised it much. The strength of the patients specially who are suffering from Hysteria must be taken into consideration before using the medicine prepared out of sarpagandha. One should be cautious in using it in the case of weak, and anaemic patients. Blood pressures should be first known before the use of the medicine. It should be used only when the blood pressure has gone high. In cases of those patients suffering from mental diseases, if the flow of blood is sluggish, the medicine is of little use.

In Blood pressure: 5 grams of sarpagandha powder should be taken followed by rose-water or fresh water each time morning and evening in an empty stomach. The younger ones should not be given more than 2 grams in a time.

CHAPTER VIII

NATUROPATHIC TREATMENT FOR BLOOD PRESSURE

People think that blood pressure is a disease. Blood pressure itself is not a disease. It is necessary for the circulation of the blood. When the blood pressure is normal, it is not a disease; but when it goes much higher than the normal or much lower than the normal, it is considered as a disease.

Blood circulating in the body goes to the heart, which sends it to the lungs, where it gets oxygen by our breathing process. Oxygen purifies it of impurities and pure blood again returns to the other part of the heart. The heart then sends it to the different parts of the body. The heart is the pumping organ which supplies blood to the body. There are two small tubes called veins and arteries, through which blood circulates to the whole body. Impure blood goes to the heart for purification through veins and purified blood circulates through arteries to the various parts of the body. When the heart fails, the circulation of the blood stops and the body dies. This action of the heart goes on from life till death.

The normal blood pressure in an ordinary man is between 120 to 140 millimeters. If it goes above 140 or falls below 120, then it is considered as high or low blood pressure respectively. This is now measured by an instrument called Sphygmomanometer.

There are many causes for the rise or fall of the blood pressure above or below the normal. Sometimes the cause is hereditary tendencies, old age, strenuous work, overeating, kidney and liver troubles, excessive drinking of tea and coffee, smoking, mental strain, anger, worries, are the general causes of this disease. In advancing age after 40 or 45 a man naturally suffers from this disease of high blood pressure.

Causes of low blood pressure are excessive mental fatigue, shocks, excessive bleeding and sweating, high fevers.

Symptoms

Man feels heaviness in head, giddiness, depression, weakness, dimness in vision. In olden times this was recognised by the feeling of pulse only. In ancient times most of the diseases were recognised by different kinds of beats of the pulse. Physicians having this knowledge of pulse are very rare now. Now everything is done by mechanical instruments.

After 45 or 50 many men are seen to be suffering from this disease. This is more common now, as the present life in a big city, where naturally men have to work hard from morning till evening, puts a great strain on the brain and also worries of family life are now too much for a man of middle state and want of proper food is also one of the causes.

High blood pressure is not a serious disease, to be feared. It can be kept under control by careful living.

Remedies

If the mind is sound, the body remains sound so one should always try to be cheerful under any circumstances, even when they are beyond our control. We can control ourselves and face the difficulties with boldness and cheerfulness, because we cannot avoid them. We should move away from the place of disturbance and take rest for some time.

Walking and easy exercises are also good.

Change in diet is most necessary. Too much eating of sweets, condiments, and drinks should be avoided. Starchy and heavy foods should be abandoned. Fasting is most essential in this disease; but nowadays nobody likes to observe fasts. As there is no other quicker remedy for this, one must observe fasts. If complete fast is not possible, one should remain on the juice of 'mossambies', lemons or oranges for a week and for some days he should live exclusively on fruits and vegetables only.

Hot water baths and sponging the body with warm water is also helpful. Dress also should be neither too tight nor too loose.

The present day strenuous and hard struggle for existence is at the root of many diseases. It is beyond our control to change the present circumstances; hence control over our own

mind is most important. This self-control can be acquired by reading scriptures, elevating books, by healthy exercises. Asanas are good, better than many other exercises and therefore they should be practised daily. They help to keep the body healthy and aid us in increasing our self-control.

Japa or repetition of the Lord's Name is also good for the control of mind. It makes the mind peaceful and helps us in our spiritual development.

Fruitarian diet is costly from the point of view of many men, but it is not more costly than the doctor's injections. Middle class men should take cheap vegetables and fruits only. For low blood pressure milk will be more suitable. While taking fruitarian diet constipation should be avoided by free use of enema.

Lastly faith in God and self-confidence are most necessary. Patience is also most essential as one cannot get relief in a day as the nature's process of cure are sure but slow. One must learn to labour and to wait.

Fruitarian diet can cure many diseases, as fruits are nature's remedies and food also. They contain vitamins in a natural state and are far better than costly vitamins tablets which can be had from the chemists and druggists.

CHAPTER IX

HOW TO LIVE WITH HIGH BLOOD PRESSURE

GENERAL HINTS

Are you one out of about every five adults who has high blood pressure or hardening of the arteries? If you are, there is no need to worry yourself into bed. Most people with one or both of these conditions can count living useful lives, if they take sensible precautions.

Medical research has brought about almost revolutionary changes in the treatment and management of both these conditions. Patients would have been condemned 20 years ago to a useless life in bed are now advised to live normally. The wise physician today would not more prescribe an invalid's routine for the average patient than he would recommend getting a job as a longshoreman.

Nobody yet knows what causes high blood pressure, nor is there any specific treatment for the ailment. There is not even general agreement on the best treatment. More than any other disease, hypertension (high blood pressure) varies with the patient and the treatment should fit the person. Actually, high blood pressure is not a disease at all, but a sign that something is wrong, like the headache or fever that accompanies a cold.

The majority of people with high blood pressure can do more for themselves than can be accomplished by surgery or drugs, although consultation with the family physician is always important.

"Watch your blood pressure", should be a solemn warning, rather than a taunt, for irritability can be the boundary-line between good and bad health. Do you explode when a telephone operator cuts you off or get angry when your opinions are challenged? If so, you may be in for trouble.

ENJOY LIFE MODERATELY

A good tip is to keep clear of friction and worry if you can. And don't worry about your blood pressure when you hear the soapshaker thumping in the dish-pea. There may be excellent therapy in taking the dish towel your wife is ready to hand you.

When you are doing your share at the office, don't bring home work to impress the boss. Take an interest in your community life, but don't become a one-man crusader.

Little things may worry you like your son's habit of leaving his bike on the lawn, or the torn nightgown your wife wears, or your neighbour's prejudices.

There will be big worries, too, like money, insurance, life expectancy, the lousy shape the world is in. Face up to them. If you don't know the answers, talk to your doctor, discussing with him the possible value of psychotherapy. Then dispose of each problem either by solving it or filling it.

However, if you wish to hold your job and avoid invalidism, you may have to make some concessions to your high blood pressure. A good rule is to do everything your doctor permits but no more.

Dr. Page has listed a few general rules, although they cannot be applied to everyone.

Walk—never run upstairs. Quit anything before you get over-tired—Relax or nap twice a day (say, a half hour before lunch and an hour before dinner)

If possible, quit work a little early and exercise outdoors for an hour (but avoid competitive sports; don't be in a golf game longer than you should).

Go to bed well before mid-night.

Keep your weight normal.

Argue and worry as little as possible.

High blood pressure has been called the doctor's disease, because hard working physicians are often the victims. It might also be called the super-executives disease, since it frequently attacks the man who likes to talk into two telephones while dictating to two secretaries. But it is by no means an upper bracket ailment for the vast majority of patients are ordinary peo-

ple—the day labourer, the semi skilled man on the assembly line, the bus driver, the housewife, the school teacher and the grocer.

It is the hefty type that appears to be most susceptible to hypertension. Dr. S.C. Robertson of North Western University measuring more than 10,000 persons found high blood pressure most common in those of short and stocky build. Tall, slender and narrow chested persons tended to have low blood pressure, which should be regarded as an asset, not a disease.

While nobody yet knows what causes high blood pressure, there is a hereditary background in about 40 per cent of the cases. It cannot be blamed on age alone, for it is found occasionally in babies and fairly among young people. Actually it strikes most commonly during the productive years of middle life and, according to Dr. George A. Perera of Columbia Presbyterian Medical Centre, New York, the average age onset is 32.

Blood pressure in some people will rise from time to time and stay elevated for a period, then drop back to normal. About three-quarters of the several million persons affected will probably develop persistent high blood pressure. Why some escape is a mystery to doctors.

You cannot determine that your blood pressure is high without consulting a physician. Some person with high blood pressure have no symptoms whatever. A common symptom is headache. Dizziness and light-headedness may persuade you that you are about to faint. You probably won't. Your doctors can usually overcome these symptoms. Vertigo, a feeling that the world is revolving around you, is of more consequence than plain dizziness.

But don't jump to any conclusions without medical examination. Most people who have headaches or dizziness do not have high blood pressure, and most people who have high blood pressure do not have headaches or dizziness.

An important fact for patients to remember is that high blood pressure is not necessarily a serious ailment. The average arterial wall is strong enough for pressure twice as any that has been recorded.

There is no special treatment for high blood pressure. Surgery, drugs, psychotherapy and special diets, such as the salt-free diets, have been used in recent years with encouraging results. Sympathectomy, an operation which involves cutting nerves along the spinal column, is rated a good gamble for the right cases, although no reliable method for selecting the right cases has yet been devised.

For more than 20 years doctors have been using potassium thiocyanate to reduce blood pressure and minimize the risk of complications; but the drug is dangerous, if the dose is not carefully regulated by testing the amount retained in the patient's blood. Other drugs are now being widely investigated.

Since there are obvious ties between hypertension and emotional difficulties, psychotherapy and emotional difficulties, psychotherapy is advisable where the patient is suffering from deep underlying problems that could be disposed of.

The diets low in salt have been widely debated, the best known being the rice diet recommended in 1944 by Dr. Walter Kempner of Duke University. Dr. Kempner reported that rice, sugar, fruit, and fruit juices helped 70 per cent, of 700 patients who had the courage to follow this diet for 35 days to 100 days. Other physicians have reported a smaller percentage benefited. In any case, the results are due almost entirely to the restriction of salt.

Ordinary starvation seems to reduce blood pressure, as shown in patients who survived war famine in Europe. When the University of Minnesota managed to cajole 34 young men into eating less than 1,600 calories a day for six months, their average weights went down by 24 per cent, and their blood pressure dropped.

Blood pressure is affected by a host of physical conditions as well as by emotional tension. If certain glands such as the adrenal and pituitary do not function properly, they may release chemicals which increase the blood pressure. Dozens of different organic conditions may be accompanied by hypertension.

Contrary to the common belief some people who eat more meat and less spinach are less troubled by high blood pressure. There is no evidence that excessive salt is a cause, ei-

ther, although some patients are helped when salt is eliminated from their diet.

There are many who think the higher the pressure, the greater the risk of damage. Science disagrees. The only important question is whether pressure that is above normal depends on the person. Anyone who tries to forecast his future by comparing blood pressure readings at different times is wasting emotional energy and probably boosting his pressure.

The narrowing of the arterioles through which the blood passes to feed the body tissues is the immediate cause of high blood pressure. The smaller the channel, the greater the pressure required to force the normal amount of blood through. So the heart works harder (not faster) and the blood pressure rises. If the blood vessels are sturdy enough to withstand the extra pressure, the owner may be unaware of the trouble for years.

The danger in hypertension, according to Dr. Page, is that persistent high blood pressure sets up a chain of events which cause hardening or scarring of the artery walls and eventually to the closing of some of the blood vessels. This condition, known to medical men as arteriosclerosis, is the main cause of death among hypertensive patients, for it can lead to serious heart attack, a fatal stroke or impairment of the kidneys. Cutting off the blood supply to vital tissues is as serious as depriving a plant of water. But not all sufferers from high blood pressure develop arteriosclerosis, and among those who do there is a variation in degree, rate of progress and intensity. Some patients are not affected for decades.

A businessman was turned down for life insurance because of his high blood pressure. Eleven years later he was found in excellent health. His blood pressure was reduced, although he was still uninsurable, and his life expectancy was better than that of many insurance executives. Over half a century ago the blood pressure of a young boy was discovered to be elevated at the age of 17. Despite this he went into business and stayed in it until he was 65, when he was compelled to re-

tire by company rules. At 70 he died of a stroke. During the last 53 years of his life he had no headaches or other symptoms until a month before his death, although his blood pressure in the eight years before he died was very high.

There is a great difference in the degree of hypertension in individuals and its rate of progress. A 34 year old mother of two children had been in good health until she was bothered with occasional headaches when she woke up. Her doctor found her blood pressure was up, gave her medicines to relieve the headaches and advised her to lose weight. She renounced pastries and other items, and to her husband's amazement kept the pledge.

LONGEVITY POSSIBLE

Fifteen years later when she was re-examined, following an attack of influenza, her heart was slightly enlarged and her blood pressure still above normal. Otherwise she was in good health. It was not until she was 56 that her blood pressure caused trouble. She awakened one morning unable to talk. The right side of her face drooped and she could not move her right arm or leg. After treatment she recovered from the stroke and was living normally when last seen by her doctor.

The situation was different with a 45-year old lawyer who thought he was in fine shape but received a jolt when his application for additional life insurance was turned down because of high blood pressure. His own doctor found the disease serious and recommended a sympathectomy-operation. The patient refused, saying it was impossible to spend seven weeks in hospital at that time, although he did agree to change his diet. Six months later he was experiencing severe, disabling headaches, shortness of breath after climbing stairs, swollen ankles and tightness in his chest after excitement. This time he allowed his doctor to send him to hospital, but despite medication and a diet low in salt, he died within a month.

A honest physician could not say that this patient might have lived as long as the first. But in hypertension, as in other

diseases, there is a presumption that a human being—like an automobile—will enjoy more mileage if regularly inspected and intelligently cared for.

The indisputable fact is that most patients with elevated blood pressure live for many years without difficulty, under proper care.

CHAPTER X

GENERAL HINTS ON TREATMENT—CONTD.

BLOOD PRESSURE AND HOSE PIPE

High or Low blood pressure is simply a sign or signal, as is the traffic light at a street crossing. Neither Low nor High pressure are diseases in themselves. They are rather signals or signs of diseases in the body. If the disease conditions are removed, the blood pressure is automatically adjusted. Most of you have seen a garden hose in operation. If there is no obstruction within the hose and there is no external pressure from without and the source of supply of water is assured along with a well regulated pumping apparatus, the pressure remains normalised. It is neither too high nor too low. Any change in the series of factors named means the pressure will change. Such change in pressure is only a result of factors involved to produce the change, and not a change responsible in itself. The change in pressure is a result and not a cause.

So also in the case of human blood. Each change in blood pressure whether high or low, is a result and not a cause, more broadly speaking a result of illness, and not a cause of illness.

Therefore, those of you who record blood pressure, either higher or lower than the normal will do better to insist upon investigation for the cause of the rise or fall in blood pressure than to be content to treat the symptom or result; viz. the abnormal blood pressure itself. Usually (though unfortunately) for those with an abnormal blood pressure treatment is too much directed at the pressure itself, and too little attention is given to the cause.

In studying the parallel drawn between the pressure of water flowing through a hose pipe and the pressure of blood flowing through the blood vessels of the body and the factors affecting the pressure, it can be seen that the pressure of the blood can be carried indirectly or directly by any one of a number of factors or any combination of many or all of them. For ex-

ample, while flabbiness or inelasticity of the walls of the blood vessels will affect pressure as will a weakened or over strained heart, either one or both of these represent the underlying cause. It may be stated that both low and high blood pressure are compensations for some other condition in the body not apparent, and usually not amenable to any modern diagnostic device for measurement. Perhaps, the victim of abnormal blood pressure due to various abnormal conditions are deductible through diagnostic procedure but this does not place the physician any nearer to an understanding of the primal underlying cause of abnormal blood pressure. It is helpful to a degree to know these things exist as a point of information towards study of symptomatology; etiologically they mean nothing except in those cases associated with trauma viz. injury to the organs of circulation. Our efforts can therefore be directed with advantage to the field of clinical observation. We should study not merely of symptoms, but of habits of living which comprises those of eating, sleeping, resting, working, thinking, recreation, etc.

The cause for abnormal blood pressure in a person is either he has over-lived or under-lived; possibly not by his own will but probably by force of circumstances—has neglected himself in many ways. Excessive indulgence in rich foods and other habits; such as eating starches, proteins and fat, use of narcotics such as alcohol and tobacco, no physical activity, shutting oneself inside rooms for long hours with poor ventilation, emotional instability and so on are at the root of abnormal blood pressure. The normal cure therefore is to rearrange one's life to eliminate the causes (enumerated in the forgoing lines) and adopt a system of daily living devised to conform to the needs of a healthy body. Obviously such plan of treatment will be progressive in nature and cannot be forced to produce immediate best results. The aim should be to remove those factors responsible for the abnormal pressure rather than to simply raise or lower the blood pressure by itself.

Close co-operation of the patient is an essential factor. Self discipline, courage and self reliance are required. Complete knowledge of the patient's habits of living can help much to take the best course of treatment. Cases of short standing

and those who have first knowledge of their abnormal pressure, can do much by themselves. Some are, of course a little more serious which with a few directed adjustments in living procedure will respond, but others will need a thorough readjustment in the daily living conditions. In all cases drugging is best avoided.

The first and a most important thing to do is to stop worrying about your plight. Now that you are aware of your condition, adopt a method of living that will relieve the body of all strain. Eat only when hungry. Fresh fruits and vegetables can be used with advantage in both the cases of low and high blood pressure. Juicy fruits such as oranges, grapes, tomatoes, apples are preferable. Add raw vegetable salads and later milk or butter milk to your diet. Continue this for two or three weeks and then addition of starches such as cereals, and proteins may be, in order in small quantities. Milk may now be discontinued and instead buttermilk be continued.

Begin with short walks and slowly increase to two miles twice daily-during the course of five to six months. Try to concentrate at deep breathing during walking. A period of air bathing about ten minutes during which time the body should be rubbed with a towel aids in activating the skin and accelerate blood circulation. Simple natural measures taken in the beginning stages do much good in regulating abnormal blood pressure.

Minor Disalignments of Bones—Cause for Blood Pressure: A patient was having a blood pressure near about 240. At his age it should be near about 140. Every kind of medicine known to the profession was administered to him but with no results. The pressure remained at the same higher level. He was advised, as a last resort, chiropractic treatment. X-ray pictures were taken and in the negative it was observed that there was a severe subluxation of axis. The second vertebra of his spine in the clavical region was out of alignment and other minor disalignments which caused the high blood-pressure. If there is an abnormal condition in the body, you may be sure that at some point, somewhere the bones are squeezing the nerves or the knotted cinews have partially cut off the nervous energy. When these blocks in the traffic have been set right, the

body gets back into the normal scheme of things and results in good health. Chiropractic treatment invariably proved successful.

A course of treatment was planned to the patient and began adjustments of the defects. At the end of three months the treatment enabled to reduce the pressure from 240 to 200 and then to 170. After about five, six months the blood was flowing through the veins of the patient at a moderate pressure of 150 which was considered normal.

Blood Pressure, Emotional Instability and Excesses:

There are various conditions that may raise blood pressure temporarily. For example when a man gets very angry and loses his balance, sure enough he is doing himself harm in this way. Worry is another cause or way of raising blood pressure. For that matter any emotional instability may have some effect. Cases of hypertension are very much less with calm and even tempered persons. Overeating continuously too may raise the pressure. In general, excesses of any kind are apt to overload the blood with toxic products causing the heart to work harder and raise blood pressure.

To avoid abnormality in the pressure, the only way anyone can adjust the condition is to rearrange one's life to eliminate the causes enumerated above, and in their stead adopt a system or schedule of daily living devised to conform to the needs and vitality of the body. Realise that you through inefficient living in some phase or combination of phases, brought the condition about, probably unknowingly, perhaps willfully. Adopt a method of living that will relieve the body of all strain. Treatment is almost always assured, if the treatment is started in early stages of the disease, long before it is manifest.

Go to a secluded corner, sit quiet for a moment and think when were you last frightened, worried, startled, tense or emotionally upset? When did you last have bitter feelings of resentment? When were the moments you felt anxiety and insecurity haunting you? When you experience these emotions, your body feels a stress and strain, and your blood pressure is raised to abnormal heights.

Learn to calm down and relax. Have an optimistic view of life and learn to smile. Be honest and sincere in your efforts. Often we try to develop self-control by putting on an artificial outward calm but inwardly there rages a storm. A wild tiger caged by strong steel-bars remains wild inside the cage. It is no use putting up a false front of calmness. If we truly desire to control the emotions within us, we should honestly try to train them by constant character-development. Analyse your reaction to each and every little happenings or thoughts that come your way. Try to understand why you reacted as you did and why the other man whom you know, responded in a different way as he did. We respond to situations with both our intelligence and our emotions. Our intelligence should help us a long way to solve our problems. Be alert and guarded, because before we know it our emotions have jumped out in front and set our bodies in an agitation. Be not perturbed for the out-burst will accomplish nothing except to ruin your spirits temporarily for the day. Now allow your intelligence to step up and change the course.

We feel tense in modern life due to competition. Become the master of your circumstances rather than the slave. Try to relax and have self-control. Give up panic and try to solve your problem by intelligent approach. The results may not be quick and immediate, but if your efforts are persistent, you are sure to be benefited.

HINTS ON MODERN TREATMENT

It can be broadly classified into the following:

1. Psychological, 2. Dietitic and 3. Medical.

1. Psychological: The family doctor can do a lot to these patients. He should be removed from all sorts of emotional irritation—domestic, financial, and from business-worries. A friendly and jovial company is needed. He must take a lighter view of all his mental worries. The chief aim is to avoid all pressure phobia (Blood Pressure) in the patients. Alter the temperament of the patient. Try to modify his out-look, i.e., revise the mode of his life. There must be minimum stress and strain. The patient should be educated to adopt a more philosophic view of life.

2. **Dietetic:** Better a complete vegetarianism can be adopted. High protein diet need not necessarily give to blood pressure. But the diet rich in food-value is important. There must be one meal a day. The bulk of it must be very small. Alcohol, coffee, tea and smoking may be completely avoided or can be cut down to moderation. Salt-free diet is advisable. If not possible 2 grams in 24 hours may be given.

3. **Medical:** Follow advice of your family physician.

General Hints: 1. A complete relaxation for a day in a week is very, very necessary. Daily at least 8 to 10 hours of adequate rest is needed.

2. Warm baths neither hot nor cold will give soothing effect on his nervous system.

3. Occasional massage may be given. He is advised to use light and loose clothing.

4. Gentle exercise in fresh air is needed.

5. Natural means to be adopted to obtain sound night rest.

6. He must diminish his output of work and must have more leisure. See that the kidneys and bowels are efficiently doing their work, i.e., he must pass his stools and urine freely.

Blood Pressure—Avoid the Cause

The cause is, excessive worry, irritability, anger, jealousy, hatred, indulgence in tea, coffee, alcoholic drinks and smoking. Avoid the cause.

Avoid rich food, overeating, constipation and anxiety.

Take rest, relax. Have sufficient sleep. Go to bed at 9 P.M. and get up at 4 a.m.

Take light exercise, walk a mile daily; practise deep breathing in the open air for 5 to 10 minutes.

Take hip-baths daily for five minutes. Take warm foot bath.

In the morning, take juice of one lemon with a cup of water. Before going to bed take warm milk or warm water.

For a day fast with diluted lemon juice. For the next week, live on fruits and milk. For the subsequent week, take the usual daytime meal but at night take only milk and fruits. Then return

to your normal diet. Take enema daily during the period of fasting.

Have occasional change in hill stations (altitude not very high) or sea side. Go only with one personal attendant. Relax and spend your days quietly.

CHAPTER XI

HOMEOPATHIC TREATMENT FOR BLOOD PRESSURE

The characteristics of each individual's constitution and the peculiarities of the predisposing causes, give rise to different symptoms in different individuals though we may, for the sake of convenience, call the disease from which they all suffer by the same name. But, a Homeopath would take particular notice of the minute difference in the symptomology of each case and prescribe a remedy to suit the particular case and not for the particular disease. Thus, there is no specific or general remedy for blood pressure in Homeopathy. Each case has to be carefully studied, not only with regard to the heart symptoms and the symptoms relating to circulation of blood, but in its entirety, taking into account other concomitant symptoms, whether they directly relate to blood pressure or not.

Given below are some of the main remedies that may be used in the treatment of blood pressure. Here only the symptoms relating to the heart are given: but the prescriber would always do well to consider all the other properties of the drug chosen and then decide which would best suit the case. If the drug chosen is correct, according to the science of Homeopathy, then the cure would always be miraculous.

Adrenalin is invaluable in checking capillary haemorrhages from any part of the body. Blood pressure caused by capillary haemorrhage would respond marvelously to this remedy. Use 2x or 6x attenuation: not too frequently. Do not mix with water.

Ambra Grisea: Pre-eminently an old man's remedy. Patients weakened by old age and overwork. MUSIC AGGRAVATES SYMPTOMS, and causes weeping. Palpitation of Heart, with pressure in chest as from a lump lodged there or as if chest was obstructed. Remember this remedy where the

disease has a nervous origin. Use 3rd potency: may be repeated with advantage.

Amyl Nitrite: Chronic blushing and flushing of the blood to the face is the characteristic of this drug. Tumultuous action of the heart. Specially discomforts at climacteric. Praecordial anxiety.

Asparagus Officinalis: Rheumatic pains, especially about left shoulder and heart. Palpitation, with oppression of chest. Pulse intermits, weak. Associated with bladder disturbances.

Aurum Metallicum: Great desire to commit suicide. Arteriosclerosis. One of the best remedies in the case of a fatty heart, in ruddy, corpulent, old people, where there is violent palpitation, with anxiety and congestion to the chest, and visible beating of the carotids and temporal arteries. Is particularly useful for mercuriosyphilitic dyscrasia or when syphilis is implanted on the scrofulous constitution. Sleeplessness. Palpitation. Pulse rapid and irregular. Cardiac hypertrophy. Violent headache. 30th potency.

Baryta Muriatica: In the 3x potency it acts wonderfully in senile high blood pressure. Arterio-sclerosis where a high systolic pressure with a comparatively low diastolic tension is attended by cerebral and cardiac symptoms. Narrowing of the cardiac orifice, with pain immediately after eating, and epigastric tenderness.

Belladonna: Belladonna stands for violence of attack and suddenness of onset. Always associated with hot, red skin, flushed face, glaring eyes, throbbing carotides and excited mental states. Violent palpitation, reverberating in head, with laboured breathing. Palpitation from least exertion. Use 3-30th potency. Must be repeated frequently in acute diseases.

Bromium: Hypertrophy of the heart, from gymnastics. It acts best on persons with light blue eyes, flaxen hair, light eyebrows, fair, delicate skins, red cheeked scrofulous girls.

Cactus Grandiflorus: Constrictions as of an iron band. The Cactus patient is pulseless, fainting and prostrated. Fluttering and palpitation of heart, increased when walking or lying on left side. The heart troubles are apt to be caused by inflammatory rheumatism, where Cactus is one of the best remedies. Haem-

orrhages, seeming to be in sympathy with heart trouble, is best influenced by it. Use Mother Tincture or 3rd potency.

Calcarea Carbonica: A constitutional remedy. Calcarea patient is fat, fair, flabby and perspiring and cold, damp and sour. Palpitation of heart at night and after eating. Palpitation with feeling of coldness, with restless oppression of chest. 30th and higher potencies: should not be repeated too frequently in elderly people.

Chininum Arsenicosum: General weariness and prostration. Palpitation of heart. Sensation as if heart stopped. Suffocative attacks, occurring in periodical paroxysms. Must have open air. Early myocardial degeneration.

Coffea Cruda: Unusual activity of mind and body. Sleepless on account of mental activity. Violent irregular palpitation of the heart, especially after excessive joy or surprise. Rapid high tension pulse and urinary suppression. 3rd to 200th potency.

Conium: Arterio-sclerosis. Vertigo especially in old maids and bachelors. Violent palpitation of the heart. Trembling gait. Intermittent flow of urine. Infrequent doses of higher potencies.

Convallaria Majalis: Tobacco heart, especially when due to cigarettes. It is of use when the ventricles are over-distended and dilatation begins. Sensation as if heart ceased beating, then starting very suddenly. Extremely rapid and irregular pulse. Mother tincture: 1 to 15 drops.

Crataegus: A heart tonic. Said to have a solvent power upon crustaceous and calcareous deposits in arteries. Heart dilated; first sound weak. Pulse accelerated, irregular, feeble, intermittent. Sustains Heart in Infectious Diseases

Digitalis: Pulse is weak, irregular intermittent, abnormally slow. Weakness and dilatation of the myocardium. Its greatest indication is in failure of compensation and especially when auricular fibrillation has set in. Bluish appearance of face. Faint, as if dying. Prostration from slight exertion. —Give 2nd Potency a few drops in water.

Fagopyrum: Visible pulsation of arteries. Throbbing in all arteries after retiring. Pain around heart (better lying on back) extending to left shoulder and arm. 3rd potency and 12x.

Ferrum Metallicum: Palpitation of the heart WHICH IS RELIEVED BY WALKING ABOUT SLOWLY. Pulse full, but soft and yielding; also small and weak. Heart suddenly bleeds into the blood vessels and as suddenly draws a reflux, leaving pallor of surface. Irregular distribution of blood. Pallor of skin, mucous membranes, face, alternating with flushes.

Gelsemium: The patient is dull, dizzy and drowsy. Sensation as if the heart's action would cease if he does not move slowly about. Weak, slow pulse of old age. Wants to have head raised on pillow.

Glonoine: Surging of blood to head and heart. Tendency to sudden and violent irregularities of the circulation. Great lassitude, no inclination to work. Sensation of pulsation through the body. Pulsating pains. Laborious action of the heart. Fluttering. Any exertion brings on rush of blood to heart and fainting spells.

Haematoxylon: Sensation as if a bar lay across chest. Angina pectoris. Convulsive pain in the heart region with oppression. Great soreness in region of the heart. Palpitation. Third potency.

Iberis: Has a marked action upon the heart. Very useful in cardiac disease. Controls vascular excitement in hypertrophy with thickening of the heart's walls. Conscious of heart's action. On turning on left side, stitching pain as of needles through ventricles felt at each systole. Palpitation, with vertigo and choking in throat. Pulse full, irregular, intermittent. Violent palpitation induced by slightest exertion or by laughing or coughing. Darting pains thorough heart. Wakes with palpitation about 2 a.m. Tachycardia.

Kali Bichromicum: Dilatation of the heart, especially from coexisting kidney lesion. Cold feeling around heart.

Kali Carbonicum: Sensation as if heart were suspended. Palpitation and burning in heart region. Weak, rapid pulse; intermits, due to digestive disturbance. Threatened heart failure.

Kali Phos (3x or 6x): Is tired on least exertion. Sleeplessness. Pulse irregular and intermittent.

Kalmia Latifolia: Rheumatic pains shift and go to the heart and involve the arms and shoulders associated with stiffness

and numbness. Palpitation; worse leaning forward. Sharp pains take away the breath. Paroxysms of anguish around heart. Heart's action tumultuous, rapid and visible. 3rd to 30th potency. 200th in sensitive patients.

Lachesis: Palpitation with fainting spells, especially during climacteric. Constricted feeling causing palpitation, with anxiety. Cyanosis. Irregular beats. Sleeps into aggravation. Cannot bear anything tight around the neck and waist.

Lithium Carbonicum: Rheumatism connected with heart lesions and asthenopia. Rheumatic soreness in cardiac region. Pains in heart before menses, and associated with pains in bladder, and before urinating—better after.

Lycopodium: A constitutional remedy. The Lyco patient has almost always some urinary or digestive disturbance. He is thin, withered, full of gas and dry; lacks vital heat, has poor circulation, cold extremities. Aneurism. Aortic disease. Palpitation of heart at night. Cannot lie on left side.

Lycopus Virginicus: Lowers blood pressure reduces the rate of the heart and increases the length of systole to a great degree. Rapid heart action of smokers. Precordial pain; constriction, tenderness. Pulse weak irregular, intermittent, tremulous, rapid. Palpitation from nervous irritation. Cyanosis.

Magnesia Phos: Angina pectoris. Nervous spasmodic palpitation. Constricting pains around heart. 1st to 12th potency. Sometimes the highest potencies are preferable. Apts especially well, given in hot water.

Magnolia Grandiflora: Sensation as if heart had stopped beating. Pain around heart accompanied by itching of the feet. Rheumatism and cardiac lesions are prominent features—stiffness and soreness. Alternating pains between spleen and heart.

Moschus: Hysterical palpitation. Trembling around heart. Weak pulse and fainting.

Muriatic Acid: Pulse rapid, feeble and small. Intermits every third beat. Patient becomes so weak he/she slides down the bed.

Naja Tripudians: Chronic weakness of the heart. Impending heart failure. Angina pains extending to nape of neck, left

shoulder and arm with anxiety and fear of death. Pulse irregular in force. Acute and chronic endocarditis. Damaged heart after infectious diseases.

Natrum Muriaticum: Heart's pulsation shakes body. Heart intermits on lying down.

Oxalic Acid: Complaints are worse by motion or while thinking of them. Heart symptoms alternate with aphonia. Angina pectoris. Sharp, lancinating pain in left lung coming on suddenly, depriving of breath. Palpitation and dyspnoea in organic heart disease.

Phosphoric Acid: Palpitation of heart in children who grow too fast; after grief or self-abuse. Pulse irregular, intermittent. Debility is very marked in this remedy, producing a nervous exhaustion.

Physostigma: Pulse feeble. Palpitation. Spasmodic action of the heart, with feeling of pulsation through the whole body. Fluttering of heart felt in throat. Fatty degeneration.

Phytolacca: Shock of pain in the cardiac region, alternating with pain in the right arm.

Pyrogenium: Threatening heart. Failure in zymotic and septic fevers. Tired feeling about heart. Palpitation. Sensation as if heart were too full. Pulse abnormally rapid, out of proportion to the temperature. Great remedy for septic states, with intense restlessness. 6th to 30th potency. Should not be repeated too frequently.

Rhus Tox: Cardiac hypertrophy, from overexertion. Trembling and palpitation when sitting still.

Spartium Scoparium: It increases the strength of the heart, slows it, and reduces the blood pressure. It continues the good effects of Veratim and Digitalis, without any of the undesirable effects of either. Has specific action upon the kidneys, enabling them to eliminate and relieve the distress upon the heart.

Spigelia: Spigelia is an important remedy in pericarditis and other diseases of the heart. Is specially adapted to anaemic, debilitated, rheumatic and scrofulous subjects. Stabbing pains. Frequent attacks of palpitation, especially with foul odour from mouth. Craving for hot water which relieves. Rheu-

matic carditis, trembling pulse; whole left side sore—must lie on right side with head high. The heart's action is so violent as often to be visible to the eye through the clothes, shaking the whole chest, and the sounds are often audible several inches away. Very valuable in acute attacks of the heart as also in chronic valvular affections, following the acute attack. *Kalmia Latifolia* follows *Spigelia* well in heart disease.

Spongia Tosta: Awakens suddenly after midnight, with pain and suffocation; is flushed, hot and frightened to death. Surging of heart into chest, as if it would force out upward.

Strophanthus Hispidus: Increases the systole and diminishes the rapidity. May be used with advantage to tone the heart and run off dropsical accumulations. Tobacco irritable heart. Rigid arteries of aged. Restores tone to a brittle tissue, especially of the heart muscle and valves. Especially useful in failing compensation dependent upon fatty heart. Heart's action weak, rapid, irregular, due to muscular debility; and insufficiency. Dose: Tincture and 6x potency. In more acute cases, five to ten drops of the tincture three times a day.

Sulphur: Pulse more rapid in morning than in evening.

Sumbul: Nervous palpitation. Cardiac asthma. Aching in left arm, heavy, numb and weary. A tissue remedy for sclerosed arteries. Dose: 2x every 3 hours for arterio-sclerosis.

Tabacum: Insomnia with dilated heart, with cold, clammy skin and anxiety. Acute dilatation caused by shock or violent physical exertion. Nausea, giddiness, death-like pallor, vomiting, icy coldness and sweat with the intermittent pulse, are all most characteristic. Most homeopathic drug for angina pectoris, with coronaritis and high tension.

Tarentula Hispania: Sensation as if heart twisted and turned around.

Thea: Nervous sleeplessness, heart troubles, palpitation and dyspepsia of old tea-drinkers.

Veratrum Album: One of the best heart stimulants in homeopathic doses. Pulse irregular, feeble. Palpitation with anxiety and rapid audible respiration. Tobacco heart from chewing. Intermittent action of heart in feeble persons with some hepatic

obstruction. A perfect picture of collapse, with extreme coldness, blueness and weakness.

Veratrum Viride: Especially adapted to full-blooded, plethoric persons. Rheumatism of heart. Beating of pulse throughout the body, especially in right thigh. Rapid pulse, low tension. Pulse slow, soft, weak, irregular, intermittent. Constant, dull, burning pain in region of heart.

Viscum Album: Lowered blood pressure. Hypertrophy with valvular insufficiency; pulse small and weak. Low tension. Failing compensation. Weight and oppression of heart, as if a hand were squeezing it; tickling sensation about heart.

The best authorities differ widely on the question of the potency and the dosage. But it is generally agreed that the lower potencies act best in acute forms of the illness and the higher ones in chronic cases. The lower potencies are given more frequently than the higher ones. In the case of extremely acute and emergent cases, it is advisable to administer the indicated remedies in divided doses—dissolve a single dose in an ounce of water and administer in teaspoonful doses—every ten or fifteen minutes, till relief is obtained.

CHAPTER XII

MEANS FOR GOOD HEALTH

Good physical health can be achieved and maintained by observing rigidly the Laws of Health and the Rules of Hygiene, by taking wholesome, light, substantial, easily digestible, nutritious, bland food or Sattwic diet, by inhaling pure air, by regular physical exercise, by daily cold bath, by observing moderation in eating, drinking, etc. Good mental health can be attained and maintained by Japa, meditation, Brahmacharya, practice of Yama, Niyama and right conduct, right thinking, right feeling, right speaking and right action, Atma Vichara, changing of thought, relaxation of mind by dwelling the mind on pleasant thoughts, mental recreation and the practice of cheerfulness.

The whole universe from the mighty sun to the tiniest atom is controlled by law. There is perfect order everywhere. The sun performs its duties quite regularly. It rises at the proper time and sets at the proper time. The stars and planets revolve in an orderly manner. They are governed by laws. There are laws in the mental plane. There are laws of physics, of astronomy, of mathematics. There are laws of hygiene and health which govern our own being. In the vast universe man alone is the breaker of laws and the violator of rules. He is the single example of lawlessness and discord. He willfully disregards the laws of health, leads a life of dissipation and then wonders why he suffers from diseases and disharmony. He deliberately ignores the rules of hygiene and right living and then weeps when he is ailing from an incurable malady.

How wonderful is this magical machine—the human body, the moving temple of God or the chariot of the soul. Mother Prakriti has exhibited her marvelous skill and maximum dexterity in constructing this marvelous machine. If you seriously ponder for a while over the structure and working of this wonderful machine, that is our body, you will be struck with awe and wonder.

Study of anatomy and physiology, hygiene and the science of dietetics which will help you to keep the body in a healthy and strong condition so that all its machinery may work harmoniously must be your first study. You have ignored the laws of health and the rules of hygiene. Hence you have a poor health, poor physique and a dilapidated frame.

Regular practice of Yogic exercises or Yoga Asans even for fifteen minutes a day will keep you quite fit and soon make you hale and hearty. You will have abundant energy, muscular strength and nerve power, a charming personality and will live long.

FEAR VICTIMISES MORE LIVES THAN DISEASE

More Contagious than Measles

Fear is a dark unprofitable force in man's constitution. It is woven into the human make up. It creeps up in various destructive guises. It is a poison to body mind and soul. Fear nourishes the root of every trouble. It is a great human curse. Fear creeps and lingers in the black jungles of the mind with apparent breath. Fear disturbs the mental equipoise and physical health. It assumes various forms, viz. fear of diseases, fear of death, fear of public criticism, fear of losing your money or property, etc. The power of imagination of the mind intensifies fear. Fear blights many lives, makes people unhappy and unsuccessful. Think you are immortal, fearless Atma. Slowly the fear will vanish. Develop the positive virtue, namely courage. Fear will slowly disappear.

Some people can bravely face the shell or the gun shot in the battle field but they are afraid of public criticism and public opinion. In private lives, Fear is known to have taken a greater toll than innumerable calamities put together can ever take at all. It is because fear is contagious—more easily than measles! Nearly all suffer from this dire malady, fear. Fear of all sorts should be totally eradicated by Atma-Chintan, vichara, devotion and cultivation of the opposite quality, courage. Positive overcomes negative; courage overpowers fear and timidity.

Fear is a painful emotion excited by danger. It is apprehension of danger or pain. Fear is an emotion excited by threatening evil or impending pain, accompanied by a desire to avoid

or escape it and to provide for one's security. Fear is born of ignorance. It is a negative Vritti or wave in the mind. It has no real form or existence. It is a product of imagination. Constant fear saps your vitality, shakes confidence and destroys your ability. It makes you powerless. It is an enemy of your success. Therefore, shun fear and be courageous always.

To be able to fight Fear successfully, first and foremost, it is necessary to know the foundation of fear. Strangely enough, it has no real foundation. In truth it lives an imaginary existence and so it is quite easy for you to demolish it any time. If you are afraid of something, look at it in the face. Fear will vanish.

THE FARMER AND THE SNAKE

To what calamity Fear, born of pure imagination, works itself upto is amply testified in the following anecdote. There was once a peasant leading a contented and happy life. He had a piece of land which he owned and worked very hard during the seasons. As a reward to his hard labour the yield was good and reaped a rich harvest every time. He had a wife who was very dutiful. She not only cooked his food, kept up his house but also helped him in the field.

One day during harvest time he was cutting the paddy and a thorn from a chance shrub that had grown in the field pricked him and in consequence there was a small bleeding from the pricked wound. As is wont to the tillers, he applied a little wet clay to stop the bleeding and went on with his work. After a good day's work he went home, enjoyed a good meal and retired. He quite forgot about the minor accident he had in the day, as the bleeding had stopped and there was not much of pain experienced from the tiny wound.

As usual the next day he was up early and went to work in the field and worked hard the whole forenoon oblivious of the previous day's minor accident. His wife who brought to him his lunch joined him in his work in the afternoon. They both were cutting the paddy side by side and during the process she had cut a snake into two. When she saw that, she gave out a sharp cry in fright and threw down the sickle. She was overcome with fear and imagined herself that the snake must have surely bitten her when she cut it; though in reality the snake was cut into

two and killed before it could inflict any harm. The farmer ran to her aid. She was frantic in her cries and emotionally excited by the threatening imaginary pain or impending danger accompanied by a desire to avoid or escape it. Her husband's efforts to pacify her proved feeble. The fear in her worked up to such a pitch that it began to poison her body; she felt intense pain all over her body and foam began to come out of her mouth!

The husband who was near her got the contagion and fear in his imagination, began to work. He thought that was the same spot where he got the pricked wound the previous day. He began to think for certain that the same snake must have bitten him also. This thought gave room for more and more fear in his mind so much so that he began to feel pain in his tiny wound, blood began to trickle out of his wound. Soon he was also a victim of panic and in consequence the pressure of blood or pulse-beat increased. The thought of impending catastrophe due to snake poisoning gripped their minds and they felt intense grief and remorse about their unfortunate predicament. Within some minutes they lost consciousness and the devil Fear gave the finishing touches; both succumbed to their fright and died.

Soon the whole village came to know about the tragedy and they all rushed to the spot where the farmer and his wife lay dead. After a commotion the villagers arranged for the cremation of the bodies. They were all so engrossed in their talks and discussions about the calamity that none thought of the dead snake cut into two. One among the crowd felt curious to see the snake, the cause of the tragedy. Quite adjacent to the sickle he saw the snake cut into two pieces. He went near to examine it closely and Lo! it was nothing but an old piece of rope coated with black wet mud. He at once yelled the truth exhibiting two pieces of rope to the crowd who were taken aback to know the truth. But they could do nothing to the farmer and his wife, because it was too late.

From the foregoing it is evident how Fear is a dark unprofitable force in man's constitution and how it creeps up in various destructive guises, nourishes the root of every trouble, disturbs the mental equipoise and physical health and finally poisons the body to ultimate death. What paralysis is to the

physical body so is fear to the mind. It paralyses the mind and makes you powerless. Fear is the most destructive emotion. It breaks down the nervous system and undermines your health. It creates worry and renders happiness and peace of mind impossible. Fear in all its different phases is the greatest enemy of man.

Fear of God is the beginning of wisdom. This is virtuous fear, the effect of faith. There is vicious fear, the effect of doubt. Half of your fear is baseless and imaginary. Fear kills effort and stultifies endeavour. Alarm, apprehension, awe, consternation, dismay, fright, terror, timidity, trepidation, etc., are synonymous with Fear. Boldness, assurance, confidence, courage, fortitude, discrimination, trust, etc., are the opposites of Fear. Therefore, conquer Fear by shunning the former and cultivating the latter virtues. Be courageous and bold, my friend!

Hari OM Tat Sat.

CHAPTER XIII

LOW BLOOD PRESSURE (HYPOTENSION)

The idea uppermost in our minds—whenever there is a talk of blood pressure it is usually about high blood pressure. We think of it's cause and cure. We earnestly keep a constant watch over the increase in pressure and find ways and means to reduce the pressure. We take recourse to moderate living free from excitement, anxiety and worry. We are careful not to allow ourselves to run into those dreadful emotions that might give us the cause for increase in pressure.

HYPOTENSION

There is yet another more common type of blood pressure trouble in which the sufferers do not have the energy to get excited about anything. They get to take things easily, because they cannot possibly help them do otherwise. These are the people who suffer from the trouble of low blood pressure and known to the Medical profession as HYPOTENSION. Due to the malady their energy is so low that, unlike those with high blood pressure, they do not have to be careful about getting excited and living too fast. For, they simply cannot, even if they want to.

Elderly people, though free from sickness, tend to develop a low blood pressure. This is perhaps due to the reason their bodily activities have slowed down. Statistics show that woman have a lower blood pressure than men do and during their menstrual periods when their vitality is usually low, the blood pressure falls still lower. When a person is tired the blood pressure is also low, because the body expects and needs rest—and a resting body needs a less vigorous circulation. Sometimes low blood pressure may indicate some disease condition but it is not very serious to life in itself. Vitality may be below normal and endurance be lessened, but the person is much safer than when the pressure is high.

Physicians usually do not attempt at any specific treatment for low blood pressure, but instead importance is given to building up of the general health. One would do well, to accomplish a permanent relief of low blood pressure to build up the run-down body or mind through a proper diet, gradual increase in exercises and attempt to clear up any mental problems that exist.

BLOOD PRESSURE: DEFINITION, CAUSES AND TREATMENT

Definition

By blood pressure is meant the tension at which the blood exists at any point in the circulatory system. From the clinical view point it refers to the tension of the arteries only. There is a special instrument to gauge the blood pressure. This is called Riva-Rocci sphygmamometer.

Causes

There are various causes for high blood pressure. Heredity is predisposing cause. Shock, worry, anxiety, prolonged mental work, sedentary habits, constipation, chronic disease of the kidneys, disease of the arteries which carry pure blood, gout, diabetes, plethora, pregnancy are the causes. Any exciting cause that produces increased peripheral resistance, increased cardiac force or increase in the volume of the blood may bring blood pressure.

Temporary high arterial pressure is not serious, but if it constantly recurs and continues over many months or years it becomes serious. The continued mental strain has a very decided influence on blood pressure.

Symptoms

There are headache, vertigo, lassitude, breathlessness or exertion, bleeding from the nose, disturbed sleep.

Treatment

Physical and mental rest is necessary. Tobacco, tea, coffee, alcohol should be given up. Vegetarian and fruit diet, saline purgatives, relaxation, exercises and Asanas are helpful. Iodide,

Iodide of Potassium and Sodium relieve blood pressure. Serpina tablets are highly beneficial.

Examination of the pulse itself will give you an estimate of its tension. The normal blood pressure varies with the age.

The following figures give the average found in several thousand actual readings:

Age	Systolic Pressure	Diastolic Pressure
21 to 30	123	82
31 to 40	125	85
41 to 50	130	86
51 to 60	133	89

(V.E. Sorapuri).

TREAT YOUR SELF FOR BLOOD-PRESSURE

The cause is, excessive worry, irritability, anger, jealousy, hatred, indulgence in tea, coffee, alcoholic drinks and smoking. Avoid the cause. Avoid rich food, over-eating, constipation and anxiety.

Take rest, relax. Have sufficient sleep. Go to bed at 9 p.m and get up at 4 a. m.

Take light exercises, walk a mile daily; practise deep breathing in the open air for 5 to 10 minutes. Take warm foot bath.

In the morning, take juice of one lemon with a cup of water. Before going to bed take warm milk or warm water.

For a day fast with diluted lemon juice. For the next week, take the usual day time meal but at night take only milk and fruits. Then return to your normal diet. Take enema daily during the period of fasting.

Never worry. Leave all your anxieties to God. Depend on Him entirely. Rely on Him. Trust in Him. Dispel hatred through forgiveness. Remove jealousy through forgiveness. Remove jealousy through negation of your personal entity. Trust in your own self. Trust others.

Have occasional change in hill stations (altitude not very high) or sea-side. Go only with one personal attendant. Relax

and spend your days quietly. Do not crave for sight-seeing. Spend one month a year in a holy Ashram or monastery where activities are peaceful.

A WINDOW ON BLOOD PRESSURE

Definition: The arteries get thickened in old age and lose their elasticity. In high blood pressure, blood has to circulate under pressure. Those who suffer from high blood pressure should be very careful. They should at once reduce the pressure. The arteries become stiff on account of high blood-pressure. It is more frequent in and past middle age.

High blood pressure may be defined as continued pressure above 150. Variations of 10, 20, 30, 40, mm. Hg., in daily pressure do not matter. Blood pressure is the tension at which the blood exists at any point in the vascular system.

The pressure put on the elastic blood pipes or arteries, which carry pure oxygenated blood from the heart to the tissues, is blood pressure. The blood vessels are more than full. They are always under pressure and distended. This pressure is called blood pressure. Pressure is found by the help of an instrument called sphygmamonometer. The figures indicate pressure in millimeters of mercury.

A normal record shows that the heart and vessels are healthy and that there is no toxic condition of the blood to increase resistance.

Causes: Causes of high blood pressure are heredity, age, strenuous work as of doctors, lawyers and businessmen, over nutrition, disturbances of endocrine glands, kidney trouble, arteriosclerosis or hardening of the arteries, some forms of heart disease, angina pectoris, gout, nicotine poison through heavy smoking. Mental strain has a very decided influence on blood pressure.

Blood pressure is raised by kidney diseases as well as by those of the arteries. It occurs in emotional or highly nervous people. Blood pressure is only a symptom.

The causes of low blood pressure are: exhaustion, shock, typhoid fever, tuberculosis, internal bleeding exhausting diseases, excessive sweating, diarrhoea.

Sedentary habits, constipation and excess of nitrogenous food are exciting causes.

Symptoms: The patient generally complains of one or more of the following symptoms, viz., headache, vertigo or giddiness, dyspnoea or difficulty of breathing, palpitation, languor, feeling of fullness above the head, disinclination for exercise, depression, disturbed vision and sleeplessness.

Heart: The heart is the central pumping station situated in the chest between the two lungs. The size of the heart is that of one's closed fist. It contracts and dilates. It can pump 10 to 15 pounds of blood in a minute. It completes one circulation in a minute. The Aorta is the biggest artery which takes its origin from the heart. As the heart contracts and dilates, a fresh quantity of blood is thrown into the aorta. The arteries are already full of blood. A wave is produced in the blood stream. This wave produces pulsation in the arteries. The pulse wave moves at the rate of 30 feet per second. It takes one tenth of a second to reach the wrist from the heart. It takes five seconds for the blood to reach the wrist.

The pulse can be conveniently felt in the radial artery at the wrist. You can count it by looking at the watch. In a healthy adult the pulse beats will be 72 per minute and the respiration will be 14 to 18 per minute. The ratio between the respiration and pulse in a healthy adult is 1:4. This will be disturbed in Pneumonia and other diseases. The science of the pulse is wonderful. An able Ayurvedic doctor will be able to diagnose the disease and describe the symptoms and fix the time of death by feeling the pulse alone. The pulse is an index of the heart. It shows the condition of the flow of blood, its volume and pressure.

When a man exerts himself much, on some occasions the heart may do four times its normal work. Under such conditions the pulse beats may be very very fast. The reserve power of the heart is put into action when there is extraordinary strain on some occasion. But if the heart is weak or is in a diseased condition, it will not respond. It will not supply the required amount of blood to cope with the strain or overwork. Consequently there will be less blood in the brain. This will produce swooning and the stoppage of heart's action or heart-failure. Therefore

you should never cause undue strain to the heart. Remember this point well.

Treatment: Be cheerful and joyful always under all circumstances. Smile and laugh. Freedom from worry is essential. If symptoms are very troublesome, absolute rest in bed is very essential. The mind and body should be perfectly relaxed. Any sudden exertion should be avoided. Walking is beneficial.

Fasting is highly useful. Take fruit juice, fresh green vegetable salad. Apple and cream is a good, wholesome combination. Give up starches and heavy food. Live on low diet. Hot tea, coffee, spices, pickles, all liquors, tobacco, should be strictly avoided. Lime juice is beneficial.

Be careful about your dress. Do not wear anything that can impede the free movement of the blood. Do not wear tight corselet or tight shoes or tight garters. Tight collar, bands, or gloves, tight necklace or bracelet should be avoided.

Sponging the whole body with tepid water daily followed by a brisk rubbing, with a rough towel is helpful. Hot baths, turkish baths, are useful.

Relaxation exercise is one of the best means.

CHAPTER XIV

HIGH BLOOD PRESSURE (HYPERTENSION)

(Maj. General A.N. Sharma, D.M.S., Retired)

DEFINITION

1. Blood pressure is the pressure exerted by blood within the blood vessels into the elastic walls of blood vessels and is measured by a sphygmamonometer. The pressure which the blood exerts into the walls of blood vessels during contraction of the heart is known as Systolic Blood Pressure and the pressure exerted during the period of relaxation of heart is known as Diastolic Blood Pressure.

CLASSIFICATION OF HIGH BLOOD PRESSURE

2. (a) **Essential Hypertension:** 70-90% of hypertensive cases fall under this group. These are the cases where even the most careful examination fails to reveal any known exciting cause. In the early stages it is *Benign* and symptomless. But as the B.I.Pr. (particularly Diastolic) goes on increasing, first a few symptoms like headache, giddiness, vertigo, insomnia, tinnitus may trouble the patient but later on if allowed to persist can cause degenerative changes in blood vessels of heart, brain and kidneys, giving rise to catastrophies like (i) Coronary Thrombosis, Angina and enlargement of heart and ultimately heart failure, or (ii) retinal hemorrhages causing defects in visual acuity, or (iii) renal failure or (iv) apoplexy and paralytic attacks when cerebral vessels give way. Then it is known as Essential Malignant Hypertension. It is a leading cause of death with complications more devastating than cancer and sarcoma.

(b) *Secondary Hypertension:* Here the B.I. Pr. is high secondarily to some other specific disease. Such cases form a small proportion of Hypertension cases and will go to a doctor

not for Hypertension but for the original disease of which it is just a part. Such cases may be cured or helped if the original disease causing high blood pressure is tackled. Such diseases are:

(i) *Renal Diseases.* (e.g) Acute and chronic Nephritis, Pyelonephritis, Polyceptic Kidney, Hydronephrosis, Renal Tuberculosis, Crush Syndrome, etc.

(ii) *Endocrine Disorders.* (e.g) Cushings' Syndrome, Pheochromocytoma, Pregnancy, Taxaemias, Acromegaly, etc.

(iii) *Cardiovascular Diseases.* Aortic Regurgitation, Mitral Stenosis, Congestive Heart Failure, Coarctation of Aorta, etc.

(iv) *Cerebral Diseases.* Certain brain tumours , etc.

Drugs. Adrenaline, Ephedrine and lead.

AETIOLOGY OF ESSENTIAL HYPERTENSION

3. (a) The actual cause is not firmly established but experimentally it has been proved that Ischaemia of Kidneys produces a substance called rennin which rises the blood-pressure.

(b) The exciting factors are overeating, obesity, mental stress and strain like worry, anxiety, irritability and too much of drinking and smoking. Although all these are supposed to be exciting or aggravating factors but they certainly are not the basic causes of hypertension because vegetarians, non-drinkers, non-smokers, thin and lean individuals have also been known to have suffered from Essential Hypertension. (Gandhiji as per example).

(c) Heredity certainly plays some part.

(d) Age—usually after 40 years—but younger people can also get it when it is usually serious.

(e) Both sexes are equally affected.

SYMPTOMS

4. A person may remain symptomless for some years. Once the blood-pressure increases beyond 18/100m of Hg., vertigo, morning headaches, buzzing noises in the ears, digestive disturbances, and insomnia develop. As it progresses to Malignant Essential Hypertension (it takes some years to reach that stage) patient may complain of pain in left side of chest (An-

gina) breathlessness on exertion (Heart failure) bleeding from nose or through piles (nature's safety valves) or disturbances of vision or bleeding from blood vessels of the brain causing paralytic strokes, or there may be symptoms of kidney failure.

CHAPTER XV

HEALTH FOR ALL

WHAT IS HEALTH

Health is that state of equilibrium of the three humours of the body namely, wind, bile and phlegm, wherein the mind and all the organs of the body work in harmony and concord, and man enjoys perfect peace and happiness, sound sleep, and performs his duties of life with comfort and ease.

It is that condition in which man can think properly, speak properly and act with alacrity, nimbleness and vigilance.

It is that condition in which man has a calm mind, free movement of the bowels, rosy cheeks, shining face and sparkling eyes; good digestion, good appetite, normal breathing, good quantity and quality of blood and strong nerves.

It is that state which is coveted by all. A life of good health is a great blessing indeed.

GOOD HEALTH

Good health is a valuable asset to man. It is a great treasure. It bestows happiness and prosperity.

Health is essential to happiness. A person who is endowed with good health is ever joyful and energetic, sleeps well and does his work satisfactorily.

A healthy boy shines well at the school and earns laurels. A healthy man is an asset to the society, whom every one else loves.

Good health is not merely absence of disease.

It includes a full development of the physical, moral, mental and spiritual powers and faculties of a man.

By possessing good health you raise the standard of public health. Public health is not the sole concern of the municipalities and health departments. Every citizen, every individual is directly and intimately concerned in the preservation of the

health and welfare, not only of himself but of the society as a whole.

Therefore, every individual should know well the science of hygiene and sanitation and of the means to good health.

HEALTH AND HAPPINESS

Health is certainly more valuable than money, because it is by health that money is procured. Health is wealth.

Without health there is no true beauty. You may have good features and complexion, but you cannot be called beautiful without radiant health.

You can have a healthy and beautiful body if you are regular in your habits, regular in the hours of retiring to and rising from bed, regular movement of the bowels, regularity in exercise and diet.

Drink sufficient quantity of cold water (1 lb measure) in the early morning and flush the kidneys. You will enjoy good health.

The secret of being healthy and happy at all times is to be a little hungry all the time. *Do not overload the stomach.*

Cheerfulness is the best tonic. It bestows both physical and mental health.

Contentment is a better beautifier than expensive cosmetics. It preserves good looks.

Control your temper and tongue. You will have good health, long life, peace, bliss and prosperity.

Be always merry. Laughter may justifiably said to be the panacea for all the ills to which human flesh is heir.

HEALTH AND HYGIENE

The well being of man depends more upon perfect nutrition and efficient sanitation than on anything else.

The mouth is the gateway to the body, and the largest entrance for the dreaded diseases to get into the system. Keep the mouth always clean. Wash it well after every intake. Avoid chewing and smoking.

Cleanliness is next to godliness. The apparels should be washed and dried in sun daily.

You suffer in health and sleep because you get up from bed many hours after sunrise and work late at night under artificial lights. Avoid writing work at night. For reading, use a small oil flame just sufficient to throw enough light on the book. Avoid using electric bulbs of high candle powers for night work.

The laws for the preservation of health should receive your foremost and first consideration. The laws of health are the laws of nature. These cannot be violated with impunity.

He who observes the rules of health and hygiene, who is moderate in eating, drinking and other things, who is regular in his prayer, meditation, etc., who is free from jealousy, hatred and pride, who is a strict celibate is free from disease.

He is healthy and attains longevity.

Learn the simple laws of health and hygiene and be disease free.

VITAL FACTS ABOUT HEALTH

Though we boast ourselves to be civilised men, yet when the question of food comes, we make many unperceptible blunders.

The English system of taking foods and breakfasts is not compatible with the tropical climate of our country.

As a rule, every country has got its own diet-routine, adjusted according to its climatic needs.

We should have no breakfast, but only a cup of milk or coffee or tea or fruit juice. Even a cup of hot or cold water will suffice as the first drink for the day.

We should not discard our usual meal in the morning, say between 10 and 11 a.m. A heavy lunch at noon in the tropical climate is not advisable.

In the afternoon, instead of coffee or tea we can have some fruits.

Our evening meal, taken between 7 and 8 p.m. should mainly consist of boiled vegetables, little fruit, and a cup of milk or butter-milk.

We should retire to bed by 10 p.m. ready to get up at 4 a.m. in the morning.

It is a golden rule to take fruits in the morning, and silver rule to take the same in the afternoon.

Twice a week we should try to live on an all-vegetable or all-fruit diet.

In our usual fore-noon meal, we can take together starches, fats, green vegetables and sugars. The other alternative is to take together proteins, fats, green vegetables acid fruits. In no case starches and proteins or starches and acid-fruits should be taken together.

Occasional fasts are as essential as occasional feasts to correct our errors against natural life, which are often inevitable due to overeating and eating sweet and spiced foods.

An occasional use of enema or castor oil or any vegetable laxative is necessary to clean the bowels.

HEALTH AND THE ELEMENTS

This body is composed of the five elements—earth, water, Agni or fire (light), air and ether (Akasa). It has a natural power to heal itself. If we help this power by means of the above five elements, the work of healing is accelerated.

The body has the power to assimilate those things that are congenial to it and throw away matter which is foreign to it. It is our duty to help the body in its efforts to self-heal.

How to utilise Air: (1) By wearing few clothes. (2) By exposing the body to fresh air. (3) By taking morning and evening walks (4) By keeping the windows fully open in working places and while sleeping as well. (5) By deep breathing exercises.

Use of Water: (1) In the form of hot-baths, cold-baths, vapour-baths, herbal-baths, etc. (2) As a stomach wash (taken in through a rubber tube, Dhauti Kriya) (3) By taking a glass of water on getting up from bed and while retiring to bed, and before and after meals. The body requires a minimum of 1 lb. of water a day. (4) As enema for cleaning. Water controls the heat in the body and helps expulsion of impurities through the skin and kidneys.

Light and Its Use: Sun-light costs nothing. We should expose our bodies to the morning sun and get Vitamins from it. Rickets can be cured by Sun light. Chromopathy can cure

many diseases. Electric light also can cure some diseases, but it is not available to all. (i.e., is not free to all).

The Use of Earth: Earth contains magnetic currents and many properties of curing diseases. It is used as cold or hot packs. It removes the poison out of the body and cools the system.

HEALTH AND DIET

Golden Rule for Dieting

The vegetarian diet is the most perfect diet that one can follow. The intellect is rendered keen, subtle and sharp by a vegetarian diet. Vegetarians should include in their diet some raw leaves sliced and mixed with lemon-juice and salt.

He who drinks butter-milk, eats tomatoes and lemons, walks three miles daily, is healthy and attains longevity.

As a rule, condiments, tea, coffee, alcohol, foods rich in starch, sugar and fat and all stimulating drinks should be avoided.

Spices and condiments cater to your unnatural cravings, but ruins your health. Therefore avoid them.

Do not be a slave to any diet-theory. Use your common-sense. Eat things that are agreeable to your stomach. Only, that do not overstuff yourself. Chew the food well. Remember, the stomach carries no teeth with it.

Digestion starts in the mouth through saliva and mastication. Pushing down the food with a cup of water after each handful of food taken in is highly injurious to the stomach.

Eat when you are hungry. Eat slowly but grind the food well with your teeth. Do not take water just before meals or along with your meals. Take water a few minutes after you have finished your meals.

Do not talk while eating. Do not eat late at night. This will disturb the night sleep as well as hinder the process of digestion that takes place at night. Take only a light meal at night. This will give you a sound sleep. There is no foundation to the statement that a cup of coffee or tea will keep you awake at night to finish your reading or school work. It is injurious to

health and digestion. Light meal consists of no solids, only milk or whey.

The statement that you will put more fat and flesh by eating too much is baseless. Eat little but well. Take plenty of exercise and be regular and moderate in your activities. You will develop an excellent muscular body.

Your food must contain proteins, carbohydrates, fats and minerals in proper quantities. The life giving Substances, Vitamins should also be there. Their presence in due proportion is called balancing.

Your body is continuously growing till you reach the age of 25 years. You are in need of more nutritious food during this period.

Stunted growth is due to various reasons, the chief of them being malnutrition and want of proper exercise.

The diet of modern civilised races is too concentrated and too rich in protein and sugar. Therefore, the intestine does not contain enough waste matter to stimulate it into action.

In a natural diet containing good proportion of whole meal bread, fresh fruits and vegetables, this difficulty is removed.

Milk, cereals, potatoes, fresh leafy vegetables, juicy fruits and honey must find a place in your daily diet schedule.

Meat-Eating

The first food given to a child is vegetarian in character. This clearly shows that vegetarian food is the natural food of man.

It is incorrect to think that animal food is an essential part of man's diet.

Vegetable foods are both cheaper, healthier and cleaner than meat.

Eminent doctors have proved that meat is the most favourable food for the development of putrefactive germs in the intestinal canal.

Many die of diseases due to meat-eating. Meat-eating and high protein diet reduces one's power of endurance.

Therefore avoid meat. Take a well balanced diet. Have a healthy kidney, liver and bowels.

Milk

Milk is a balanced food. It contains all nutritive principles in a well-balanced proportion. It is rich in energy-giving nutrients, minerals and vitamins. Hence, it is of a very high value.

Let a glass of milk serve you as a refresher, better than tea or coffee.

Always use fresh milk, within five hours of milking. Take care to drink only boiled milk.

The Mysterious Vitamins

Vitamins are mysterious substances found in our food, whose chemical compositions are, as yet, unknown, but whose absence or deficiency is well known to be the cause for serious ailments and disorders. They are indispensable for the nutrition of the body. The Vitamins are classified differently according to their actions.

Vitamin A is the enemy of germs. It keeps the skin healthy and cures blindness. Deficiency of Vitamin A leads to blindness. Nursing mothers need it more. It is found in milk, butter and curd.

Vitamin B is the foe of 'beri-beri' and belongs to a complex group. It should not be cooked with soda. It is abundant in marmite and bran. It is essential for health, strength and well being. Absence or deficiency of this leads to many ailments.

Vitamin B2 is the enemy of pellagra. It is abundant in milk, cereals and pulses, spinach and curd. It keeps man robust and healthy.

Vitamin C is the enemy of scurvy. It is abundant in the juices of orange, lemon and tomato. It enriches blood. Absence of this leads to gum-bleeding. It is also abundant in Amla (Indian gooseberry). Take Amla murappa daily. It is also supplied by many vegetables.

Vitamin D is the enemy of the rickets osteomalacia. It builds the bones. It is present in milk and butter. It can be had in plenty from sun's rays. Take regularly sun-bath. Your body will absorb enough of calcium and phosphorus. It is abundant in ultraviolet rays. It makes the teeth strong and healthy.

Vitamin E is the foe of sterility in man and woman. It is had in plenty from wheat-germs, wholemeal bread and lettuce. The use of these will make the man or woman fertile.

Articles of Food

Apple contains Vitamin A, B, C, copper, potash, iron, phosphorus and malic acid. It serves well the purpose of food. Apple is useful in 'stones' in the kidneys or bladder.

Banana is rich in protein, carbohydrate and Vitamins A, B, C and D. Living on milk and bananas also is a good diet for health. Fully ripe bananas are laxatives. Take a couple of bananas before retiring to bed. You will have a free movement of the bowels in the morning.

Butter-milk contains calcium, phosphorus, iron and Vitamin B2.

Barley is rich in mineral matters.

Corn flour contains a high percentage of starch. It is from maize.

Cereals constitute the most important of our vegetable foods. They are particularly rich in starch and they also contain protein with a very little amount of fat.

Cheese is rich in Vitamin A. It contains protein, fat, carbohydrates, calcium, phosphorus and iron.

Cabbage contains Vitamins A, B and C, sulphur, calcium, phosphorus, iron, sodium and potassium. It is rich in Vitamin C.

Carrot is very rich in Vitamins A and C, lime, phosphorus, iron and potash. It beautifies the skin and improves the blood and appetite. Take it raw. Carrot *Halwa* is a brain- tonic.

Cocoanut contains protein, fat, carbohydrate and a little of Vitamin A. It is moderately rich in Vitamin B. It also contains calcium, phosphorus and iron.

Dates contain a good quantity of iron. Figs contain Vitamin B, potash, sodium, lime, phosphorus and magnesium.

Fruits and vegetables are very valuable foodstuffs. They are protective foods. With certain exceptions, they tend to form alkali. They are very good sources of vitamins and minerals.

Groundnuts contain protein of a high quality. It contains good lecithin. In this respect it equals egg-yolk and can be substituted for it.

Grapes contain citric and tartaric acids.

Iron is mainly had from grapes, tomatoes and the leaves of green vegetables such as lettuce, cabbage and spinach.

Leafy vegetables alone can maintain perfect health without milk.

Lemon contains plenty of Vitamin C. It contains lime, phosphorus, potash and magnesium. It contains also salts. It acts against scurvy. Take the juice of one lemon with two teaspoonful of honey as the first thing in the morning.

Lettuce contains iron, phosphorus, lime, potash and Vitamins A, B and C.

Mangoes are rich in vitamins A & C (an important source). They contain sugar and highly refined turpentine in them. They also contain iron and many useful acids. They are useful in rheumatism, diarrhoea, and diabetes.

Molasses (Gud) are rich in iron and carbohydrates.

Milk is the richest source of calcium. Cheese is the next. Milk and butter contain Vitamin D.

Nuts are rich in protein and fat, and Vitamin B. Though not easy to digest, they have very much nutritive value. They are the meat substitute in the vegetarian diet.

Oranges contain Vitamin C in plenty in addition to protein, fat, calcium, phosphorus and iron. Orange-juice mixed with fresh grape-juice makes a very good tonic. This is very useful in anaemia, general debility, rickets, etc.

Pappaya contains the active principle of alkaloid papain. The latter digests the food rapidly.

Pistaches Nuts (Pista) contains protein, fat, carbohydrates, and calcium, phosphorus, iron.

Peanuts contain the very same things found in Pista, with the addition of Vitamin A and B.

Pine Apple is very beneficial in case of enlargement of spleen. Take one fruit daily.

Potato supplies blood with potash and salts. It is good source of Vitamin C. It also contains Vitamin A, B and B¹².

Pulses are the cheaper source of protein. It is a good substitute for meat.

Polished rice is very rich in starch but poor in fat and minerals.

Roots and Tubers contain no protein or fat.

Red Palm Oil alone contains Vitamins and *not vegetable oils*.

Root-Vegetables like potato are rich in carbohydrates.

Spinach contains large amount of Vitamins and calcium. It is rich in iron. Spinach and tomato improve the blood qualitatively and quantitatively.

Skimmed Milk contains calcium, phosphorus and iron.

Sweet Potatoes are rich in Vitamin A. They also contain Vitamin B and C.

Turnips contain iron, soda, potash and magnesium.

Walnuts contain calcium, phosphorus, iron, fat, protein, carbohydrates and Vitamins A and B.

Pears are beneficial in 'stones' in the bladder. The stones will be dissolved.

Tomatoes contain little protein and fat. It contains calcium, phosphorus, iron and Vitamins A, B and C. They stimulate the action of the liver. Tomato is a powerful de-obstruent and blood cleanser. It is very useful in preventing habitual constipation.

Dietetic Principles

Fruits should be perfectly ripe. Do not eat sour and unripe fruits.

Fast one day in a week. Fasting eliminates poisons and overhauls the internal machines.

Do not eat when you are angry. During angry mood poisons are generated and thrown into the blood system.

Take food as medicine. Give up gluttony.

Eat to live and not live to eat.

Do not eat anything between two meals.

Do not take tinned foods and old butter.

Do not remove the skin of apples and carrots. They contain valuable minerals and vitamins.

Never take food in a hurry.

After forenoon meals rest for fifteen to thirty minutes. After night meals walk a hundred yards.

Sleep on your left side at night. This will help quick digestion.

Do not throw away the water in which rice and vegetables have been boiled. Drink it. The water contains valuable materials.

Sit in Vajrasana (adamantine post) after every meal. This helps digestion.

Always have a rotation of dietary articles. Accustom yourself to the different types of foods.

Also practise to live without salt and sugar.

Vegetables contain enough salt to maintain the body. The additional salt and sugar that you add is only to suit your taste.

Even for a slight disturbance in the stomach or a slight tendency to constipate, fast on that day and take lemon juice and water. This will save costly doctor's bill.

A MESSAGE FOR THE MEDICAL CONFERENCE

held at Dehradun, U.P. in November 1955.

India's happy social life, economic prosperity based on increased human efficiency and industry, our national programme of development in various fields of life and our cultural activity, are intimately bound up with the dynamic efforts that are required of our medical men and women. The greater the efforts made to increase and conserve human health in our country, the greater will be the progress of our Nation. There is no exaggerating the value of health for the rise of India in the community of nations. The importance of health is summed up in such commonplace statements as, "Health is wealth, "If health is gone, everything is lost." Charak Maharishi tells us that health is the best cause of moral nature, economic achievement, happy living and spiritual freedom. The political independence of India has devolved on our medical men and women fresh and special duties; and the appeal of the Nation's

progress is to their abilities, skill, talent, enthusiasm and spirit of sacrifice!

Doctors do not make merely columns of enthusiastic energy and trained power for affording medical relief; they form centers of civilizing force and wield ennobling power on the minds and character of men around them; what is more, there are among them, many silent saints of unusual power and influence. On their personal qualities, individual moral excellences and the most elegant demeanour depends the measure of happiness of their patients. The profundity of their respect for human nature, the warmth of their sympathy for the suffering, the power of their patience in rendering meticulously attentive service, the sweetness of their speech, to this day, brook no rivals in other fields of profession.

The phenomenon of the will to serve as exemplified in the most worthy President of the U.P. Branch of the Indian Medical Association, Dr. Durga Prasad, has, specially by its many sidedness constituted by a considerate understanding, an unquestioning sympathetic love, and tireless effort, been evoking for medical men, from the heart of a grateful humanity, the verdict: "Such doctors are Angels." Under his Presidentship the U.P Branch of the Medical Association, I am sure, would leap forward to win special distinctions for extraordinary service! May the Almighty Power bless this Medical Conference with fullness of success and grant greater health, long life, peace, happiness, prosperity, success, and Kaivalya Moksha to everyone connected with it.

—Sri Swami Sivananda

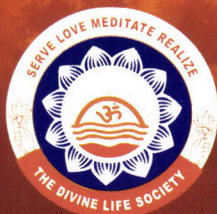


Blood Pressure is fast becoming something in the nature of a universal malady. In the West especially high blood pressure with its concomitants like apoplexy, paralysis, etc., is assuming menacing proportions and the medical profession seems to find itself helpless to cope up with this dire enemy of human health and welfare. But for the gravity of the threat to human life held out by High Blood Pressure and the almost invariable fatality ultimately resulting from it one may be inclined to remark in jest that blood pressure has come to occupy the position of the foremost "fashionable disease" of this century. Above a certain age the average man is almost certain to have blood pressure complication in some degree or other as a part and parcel of his declining health picture. Though knowing quite a lot about the actual 'condition' called blood pressure yet the doctors all over the world seem hard put to lay their finger upon the exact causative factors responsible for bringing about the specific "condition". Nor have they been quite successful in finding suitable, rational, effective therapeutical agents to overcome radically this complaint.

This book will certainly provide very important and valuable knowledge on the subject, the possession of which is bound to be extremely useful both to the patient as also to the doctor, who needs the former's intelligent cooperation all along, if his treatment is to be rewarded with any measure of success.

A valuable feature of this work is the psychological and spiritual hints we have included in it for the attainment of subtle, inner strength, sound and serene mind and a state of radiant vitality by the earnest seeker after health and well-being.

This book goes forth to do its mite in the cause of the all-round, i.e., the physical, mental, intellectual and ethical welfare of mankind.



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